

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

RESOLUTION NO. 03-46

WHEREAS, the Central Texas Regional Mobility Authority ("CTRMA") is pursuing the development of the US 183-A turnpike project; and

WHEREAS, the CTRMA has received a grant of \$12.7 million from TxDOT as financial assistance to fund certain activities associated with the development of US 183-A (the "183-A Toll Equity Grant"); and

WHEREAS, HNTB, the general engineering consultant retained by the CTRMA (the "GEC"), has developed a scope of work and a proposed budget for the work necessary to expeditiously pursue the development of US 183-A and prepare the project for the issuance of turnpike revenue bonds (the "183-A Work Authorization"); and

WHEREAS, a copy of that proposed scope of work and budget was presented to the Board and approved subject to various restrictions as set forth in Resolution No. 03-38, including review and approval by TxDOT; and

WHEREAS, TxDOT has suggested certain revisions and modifications to the 183-A Work Authorization, which are reflected in the revised version of the work authorization attached hereto as Exhibit A; and

WHEREAS, staff has recommended that the Board of Directors authorize only those items of work under the 183-A Work Authorization that will be necessary regardless of whether the CTRMA develops 183-A through a comprehensive development agreement or a traditional procurement process and which also assure that project planning will continue without delay; and


WHEREAS, staff has identified the items (or portions thereof) in the 183-A Work Authorization identified in Exhibit B attached hereto as being those necessary regardless of the project delivery methodology utilized and which will assure that the project will continue without delay; and

WHEREAS, any work undertaken by the GEC under the 183-A Work Authorization will be subject to the terms and conditions of the contract for GEC services between the CTRMA and HNTB;

NOW THEREFORE, BE IT RESOLVED, that the Board of Directors approves and authorizes the GEC to undertake the 183-A Work Authorization items identified on Exhibit B, provided that all such work shall be subject to the GEC contract and that no additional work may be undertaken without the specific approval of the Board of Directors.

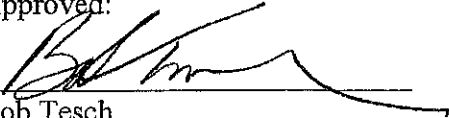
Adopted by the Board of Directors of the Central Texas Regional Mobility Authority on the 24th day of September, 2003.

Submitted and reviewed by:



C. Brian Cassidy
General Counsel for the Central
Texas Regional Mobility Authority

Approved:



Bob Tesch
Chairman, Board of Directors
Resolution Number 03-46
Date Passed 9/24/03

WORK AUTHORIZATION NO. 3

CENTRAL TEXAS RMA

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

GENERAL PROJECT OVERVIEW

GEC Core Staff and US 183A Schematic review and revisions

The scope of services for this task order shall include General Engineering services for the CTRMA and Preliminary Design (which shall include evaluation of the existing US 183A Schematic, revisions to Schematic to modify the plan as appropriate, route and design studies, public involvement and environmental document updating, drainage studies, and toll facilities concept/study); Public Involvement; Determination of Project Phasing; Survey; ROW assessment and preparation of ROW plans and documents; and cost certification for the Official Statement Bond documents of US-183A from SH 45 at US183 to a connection with US 183, north of Leander, a distance of approximately 11 miles.

The deliverables of this work effort are included on page nine of this document. The Design Schematic and accompanying financial plan are necessary in order to produce a Construction Cost Estimate for the Bond Certification as 183 A moves toward a bond sale. Updated surveys, ROW Map, Hydrology and Hydraulics with necessary easement identification, final vertical geometry, cross sections and construction phasing approach to meet financial feasibility must be produced in order to develop a final construction and ROW acquisition plan for the CTRMA. Public Involvement necessary to achieve Informed Consent for the plan of finance and Tolling is a critical effort of this Work Authorization. A Strategic Plan will be developed as a first phase of Public Involvement and stakeholders at all levels will be involved in communicating the 183 A Toll Road financing plan.

1) MAINTAIN CORE GEC STAFF

The GEC will maintain a core staff of three persons at an office to be designated by the CTRMA. These three people will respond to requests by the CTRMA Board, according to the Scope of Work contained in the master agreement. The GEC core staff will be supported with expertise in Public Involvement, financing methods and the legal and ROW issues involving US 183A roadway development and innovative finance methods.

2) PROJECT MANAGEMENT FOR THE DEVELOPMENT OF US 183A

- a) Design Strategy Meeting: Discuss development of design criteria, toll facility objectives, access management, typical cross section and general process discussion for the

development of US 183A. The GEC's Project Manager and the GEC's task team leaders will participate in the Design Strategy Meeting. GEC will prepare and evaluate design needs, concepts, and guideline information into a Design Summary Report (DSR).

- b) Scheduling: The GEC will develop a detailed, graphic project schedule for complete development of the US 183-A project. This will include identification and integration of all activities with the Traffic and Revenue Consultant, Bond Counsel, Legal Staff, Financial Advisor and Public Involvement. The schedule (in Microsoft Project format) will indicate tasks, subtasks, critical dates, milestone events, deliverables, and information requested from external agencies. The project schedule will be in a format which depicts the order and interdependence of the various tasks, subtasks, milestones, and deliverables for each task identified herein. As a part of the schedule development the GEC will evaluate various constraints and maximize the efficiency of the project.
- c) Progress Reports, Invoices and Billings: The GEC will prepare monthly progress reports (one copy) for review by CTRMA's designee. Invoices for all work completed during the period will be submitted monthly from the GEC and all sub-consultants. Monthly progress reports will include:
 - i) Activities during the reporting period
 - ii) Activities planned for the next period
 - iii) Problems encountered and actions to remedy them
 - iv) Overall status, including a tabulation of percentage completed.
- d) Correspondence: The GEC will submit all written materials, letters, survey forms, etc. used to solicit information or collect data for the project to the CTRMA, or designee, for review and acceptance before its use or distribution. Word processing will be prepared using Microsoft Office 2000 Professional Office Version.
- e) Communication with other resources and/or agencies regarding this project will be handled solely by GEC to ensure all parties are properly notified of any conclusions reached from these communications.
- f) Release of Information. The GEC will not release any project information without consent of the CTRMA's designee.
- g) Document Printing and Distribution. The GEC will be responsible for development of electronic document files and for printing copies of all draft and final documents, reports, etc. produced for the Project except where defined by each specific Task. GEC will be responsible for the distribution of all draft and final documents to appropriate agencies and the public.
- h) Attendance and report at monthly CTRMA Board Meetings, Executive Committee, Planning Committee and other committee functions involving the development of 183A.

- i) Close-Out: Upon completion of the Preliminary Engineering phase, the GEC will organize and retain copies of all associated materials on behalf of CTRMA.

3) ROUTE AND DESIGN STUDIES FOR THE DEVELOPMENT OF US 183A

a) Design Schematic review and evaluation

- i) Review and update where appropriate the design criteria for the US 183A to meet current TxDOT standards.
- ii) The GEC will review and where appropriate revise horizontal and vertical alignments for US 183A. Roadway geometry will be based on the criteria and requirements set forth in part IV of the TxDOT Roadway Design Manual.

(1) Design speed

- (a) Mainlanes: 70 mph
- (b) Ramps and Frontage Roads: 40 mph
- (c) Cross streets consistent with all locally applicable major thoroughfare plans, including those of Austin, Cedar Park, and Leander.

- (2) The horizontal alignment will show bearings in the tangent sections and complete curve data including delta angles, PI stations, tangent lengths, length of curve, and radii. The plan views will show the center-line, edge of pavement, striping, lane widths, shoulder widths, cross slopes, superelevations with transitions, direction of traffic flow, and layouts for all speed change lanes. The GEC will provide horizontal alignments as follows:

- (a) Mainlane horizontal alignment.
- (b) Frontage road horizontal alignment.
- (c) Entrance and exit ramps horizontal alignments for both south and north bound directions.
- (d) Cross street horizontal alignments, best fit of the existing cross street between the frontage roads.

- (3) The GEC will review and where appropriate develop horizontal turnarounds at existing grade separation structures. Deceleration lanes will be provided for on all turnarounds. Acceleration lanes will be provided for on turnarounds.
- (4) The vertical alignment will show existing and proposed elevations at 100-foot intervals, vertical curve VPI stations, curve lengths, superelevation rates and transitions, design speeds, "K" values (evaluation to obtain minimum "K" values), and tangent grades. The GEC will assess the changes made to the TxDOT

Design Manual to see if cost saving can be made by adjusting the vertical alignment. The GEC will provide vertical alignments as follows:

- (a) Main lane vertical alignment.
 - (b) Frontage road vertical alignment.
 - (c) Entrance and exit ramps vertical alignments.
 - (d) Cross road vertical alignments,
 - (e) Turnaround vertical alignments, straight grade alignments between the frontage roads.
- (5) The schematic will be prepared in US Customary units with MicroStation J and GEOPAK 2000.
- (6) The GEC will provide up to 10 senior technical staff to participate in a 5-day Value Engineering Study (V. E. Study.) The GEC will provide a color schematic on roll plans to be used at the V. E. Study.

The GEC will prepare for the Value Engineering Study by developing a cost estimate matrix for the schematic including cost per section, cost per major bid item, cost per interchange etc. This will be done to better determine where cost savings can be found.

- (7) The GEC will assess the currently proposed retaining walls required as part of the project. Geotechnical evaluation of the preferred type will not be completed under this Work Authorization.
- iii) The GEC will evaluate and revise typical sections on the schematic drawing using sections approved by CTRMA. Typical sections for reworking crossroads will also be developed by the GEC and shown on the schematic. The typical sections will also show the intermediate phases of construction related to the construction phasing.
 - iv) The GEC will identify and locate all known utilities impacting the 183 A schematic design.
 - v) The GEC will review the earthwork cross-sections and evaluated how to improve section to minimize costs and maintain safety.
 - vi) The GEC will develop line diagrams for traffic and revenue for multiple options to be used in developing the construction phasing.
 - vii) GEC will re-evaluate the capacity and level of service analysis based on any revisions to the traffic information provided by the Traffic and Revenue Consultant

The scope of services and related fee for the Traffic and Revenue Consultant is not included in this Work Authorization.

- viii) The GEC will prepare the schematic drawing using the same scale, legend and symbol as the existing US 183 A schematic.
- ix) GEC will review the locations of guide signs and pavement markings in compliance with Texas Manual for Uniform Traffic Control Devices (TMUTCD). The GEC will update any signs due to revisions made to the geometric design. Guide signs will be included on the schematic.
- x) The GEC will complete any traffic signal warrant studies.
- xi) The GEC shall provide to CTRMA, as a final product, one Mylar copy of the schematic and two (5) Color copies of the schematic. The final schematic shall also be provided in a digital format. CADD Files shall be provided for Document and Information Exchange. Schematic will include the items included in the CTRMA checklist. The updated final schematic will included the following:
 - (1) The location of all main lanes, grade separations, frontage roads, and ramps
 - (2) Vertical profiles for mainlanes, frontage and ramps.
 - (3) Traffic flow direction on all roadways.
 - (4) Right of Way and Control of Access lines
 - (5) Geometric typical sections (including pavement cross slopes, lane and shoulder widths, and slope rates for cuts and fills) for proposed mainlanes, ramps, frontage roads, and cross streets
 - (6) Toll Plaza Footprints and layouts
 - (7) Current and projected traffic volumes as provided by CTRMA (20-year, unless determined otherwise by the CTRMA)
 - (8) Guide signs
 - (9) Toll signs
 - (10) Geometry of speed change (acceleration, deceleration, climbing, etc.) lanes
 - (11) Location of proposed structures, including pertinent dimensions, lanes on roadways and decks, directions of travel and preliminary vertical clearances for grade separations.
- xii) Additional copies of schematics to be provided include:

- (1) Preliminary schematic, three copies, for review by CTRMA.
 - (2) Draft Final schematic, three copies, for CTRMA and FHWA review.
- b) Pavement design for the all roadways within 183A: Main lanes, Frontage Roads, Ramps, and Cross streets within the US 183A ROW.
 - c) Evaluation will be completed for splitting of the project into multiple construction projects in order to develop the multiple projects. The basis for the construction phasing will be to create an efficient project to build as a toll facility that is financially viable and minimizes the traffic delays.
 - d) The GEC will develop a certified construction estimate for each phase of the construction detailed in the construction phasing.

4) ENVIRONMENTAL UPDATING FOR US 183A

The GEC will assess any deviations from the current Environmental Impact Statement (EIS) and will draft a letter requesting approval of any changes to the EIS including appropriate evaluation of the impact of the changes to the EIS. Modifications in these areas are within the areas of the scope of services:

- i) Cultural Resources & Surveys
- ii) Noise and Air Quality Analysis
- iii) Wetland investigations
- iv) Hazardous Materials
- v) Endangered Species Coordination/Mitigation

GEC believes that the environmental documents can be updated via a re-evaluation of the EIS. However, the cost if more extensive services are required to modify the EIS or other unanticipated complications, such as significant alignment shifts or additional project or public meeting(s) are not included in the scope, schedule, and budget.

5) PUBLIC INVOLVMENT FOR US 183A

The GEC will provide a colored schematic, showing roadway typical sections, mounted on presentation boards with photos of existing interchanges for four public meetings/hearing as required for US 183A with the intent of developing informed public consent for the project. GEC will make all arrangements for the public meetings/hearing and will handle all mailings, advertisements, and announcements for the public meetings/hearing for US 183A.

- a) The GEC conduct and handle the public meetings/hearing and will make all formal presentations at these meetings.

- b) The GEC will meet with stakeholders during the schematic design process as directed by CTRMA in order to deliver informed public consent for the development of US 183A. It is anticipated that the project stakeholders will include neighborhood associations, business groups, civic organizations, and area public officials
- c) The meeting minutes and meeting summaries for the public meetings/hearing will be recorded and prepared by the GEC.
- d) The GEC will also develop a community and governmental relations program to gain informed public consent for the US 183A project. This activities will include:
 - 1. Public Involvement Publications and notifications
 - 2. Audio/Visual Production
 - 3. Brochures, Informational Pieces, Presentations
 - 4. Community and Industry Relations
 - 5. Consumer Attitude Tracking
 - 6. Crisis Communication Plan & Training
 - 7. Government Relations
 - 8. Regulatory Review and Analysis
 - 9. Media Relations
 - 10. Strategic Planning

These activities, initiated for US 183A, will serve as a template for future CTRMA activities.

6) ROW AND UTILITY ADJUSTMENT FOR THE DEVELOPMENT OF US 183A

- a) The GEC will prepare a Right of Way and Control of Access map in order to determine the correct ROW needed. The GEC will modify the ROW map as necessary to provide the most efficient design. Previously establish ground control for the project will be used to document changes to the ROW. Specific attention will be paid to the frontage road side slopes, drainage requirements and conformance with reasonable access where access is allowed. The GEC will evaluate and incorporate ROW previously acquired by other entities.
- b) The GEC will determine any changes to existing ownership information for property adjoining CTRMA right of way.
- c) The GEC will develop metes and bounds descriptions for parcels to be taken.

- d) Assess alternate access to adjacent property to determine, costs, impacts to development of the frontage roads.
- e) Utility Coordination
 - i) Identification of potential conflicts
 - ii) Estimate of likely construction costs for utility relocation
 - iii) Coordination with utility companies regarding the needed adjustment of conflicting utilities.
 - iv) Prepare and negotiate all utility agreements.
- e) Acquire parcels necessary for US 183A right-of-way.

7) FIELD SURVEYING FOR THE DEVELOPMENT OF US 183A

- a) GEC will use the planimetric survey and digital topography developed by TTA for existing schematic. New mapping of the corridor is not including in this task order
- b) Additional topographic information to supplement the planimetric survey information as follows
 - i) Field survey near drainage outfalls to develop properly sized drainage easements.
 - ii) Update planimetric for changes that have occurred since the flight
 - iii) Field survey of proposed roadway centerline
 - iv) Field survey of proposed right-of-way
 - v) Field survey and location of existing utilities
- c) Provide any temporary traffic control such as signs, flags, flaggers, and safety equipment that may be required.

8) TOLL FACILITIES AND TOLL ASSESSMENTS FOR THE DEVELOPMENT OF US 183A

- a) Complete line diagrams for various options to be studied by the Traffic & Revenue consultant to be used to assess appropriate phasing and Toll facility locations. The scope of services and associated fee for the Traffic and Revenue consultant is not included in this Work Authorization.
- b) Review and assess existing schematic toll collection facilities. Develop recommendations for alternate or interim toll facilities. Revise schematic drawing to show appropriate toll facilities to maximize toll revenues.

- c) Assess the impacts of current location of main lane toll plaza relative to existing residential neighborhoods and assess if better location for main lane toll plaza can be developed.
- d) Where necessary modify ramp locations on schematic design to maximize toll revenue
- e) Develop standardized toll signage for toll plazas, ramps, and mainlines

9) **HYDROLOGY AND HYDRAULICS FOR THE DEVELOPMENT OF US 183A**

- a) Place locations of existing outfalls for cross drainage and storm sewer systems on schematic.
- b) Develop preliminary report for hydrology and hydraulics to determine appropriate drainage outfall sizes and develop reasonable estimation of drainage costs.
- c) Existing Hydrology or hydraulic studies will be reviewed to evaluate the 100 year storm elevations. The GEC will determine the approximate limits of the 100-year flood boundary based on current FEMA Flood Insurance Rate Maps for inclusion on the roadway schematic. GEC will evaluate the 100-year storm elevation with the Mainlane vertical profile.
- d) Coordination and agreements required with COE and TCEQ for all related activities.
- e) Develop a water quality plan including an implementation plan for water quality facilities including basins, filters, ponds, etc.

DELIVERABLES FOR THE DEVELOPMENT OF US 183A

Design Summary Report
Preliminary Schematic
Draft Final Schematic
Design Schematic
Value Engineering Report
Construction Phasing Plan
Certified Construction Cost Estimate
Public Meeting/Hearing Minutes and Summary
Required Environmental Documentation
Revised ROW Map and required parcel descriptions
Estimate of Utility Relocation Costs
Utility Relocation Agreements
Updated Planimetric and Topographic Mapping
Line Diagrams for Toll Assessment
Preliminary Hydrology and Hydraulics Report
Water Quality Plan
Engineers Certification Report required for the Official Statement

NOTES:

- 1) All design shall be in accordance with the above references, except where variances are permitted in writing by CTRMA.
- 2) The GEC is responsible for purchasing all references, which are required for the project.

EXHIBIT A

SERVICES TO BE PROVIDED BY THE AUTHORITY

In addition to the services listed in the Agreement, the Authority will provide the following services:

- Provide input, direction and guidance regarding the services provided by the Engineer.

Exhibit B

CTRMA Board Resolution No. 03-46

Authorized 183-A Work Authorization Items*:

Task 1 (Maintenance of Core GEC Staff): 50% of described work and expense

Task 2 (Project Management): 50% of described work and expense

Task 3 (Route and Design Studies): work up to \$500,000 of expense

Task 5 (Public Involvement): 100% of described work and expense

* Task references are to those items of work identified in the 183-A Work Authorization attached as Exhibit A to Board Resolution No. 03-46.

EXHIBIT C

WORK SCHEDULE

This Work Authorization shall become effective August 27, 2003 and shall terminate two years from that date, unless extended by a supplemental Work Authorization.

ATTACHMENT E

WORK AUTHORIZATION NO. 3

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of the Agreement dated August 27, 2003, hereinafter identified as the "Agreement", entered into by and between Central Texas Regional Mobility Authority ("Authority"), and HNTB Corporation ("Consultant").

Part 1. The Consultant will provide the following engineering services:

- Maintain a core staff of three persons at an office to be designated by the CTRMA.
- Project Management for the development of US 183A.
- Develop route and design studies for US 183A.
- Environmental updating for US 183A.
- Public involvement for US 183A.
- ROW and utility adjustment for the development of US 183A.
- Field surveying for the development of US 183A.
- Toll facilities and toll assessments for the development of US 183A.
- Hydrology and hydraulics for the development of US 183A.

The responsibilities of Authority, the Consultant, and the schedule are further detailed in Exhibits A, B, C and D.

Part 2. Without modification, the maximum amount payable for services performed under this work authorization is \$6,377,921. A fee schedule used to establish the maximum amount payable is attached hereto as Exhibit D.

ATTACHMENT E

Part 3.

The Authority and Consultant both recognize that additional effort will be required to complete the services listed in Attachment B of the Agreement. This additional effort will be addressed and executed in future Work Authorizations.

Part 4. Payment to the Consultant for the services established under this Work Authorization shall be made in accordance with the Agreement.

Part 5. This Work Authorization shall become effective August 27, 2003 and shall terminate two years from that date, unless extended by a Supplemental Work Authorization.

Part 6. This Work Authorization does not waive the parties' responsibilities and obligations provided under the contract.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

CONSULTANT:
HNTB Corporation

AUTHORITY:
Central Texas Regional Mobility Authority

By: Richard J. Ridings, P.E.
Signature

By: _____
Signature

Richard Ridings, P.E.
Printed Name

Printed Name

Vice President
Title

Title

09/01/03
Date

Date

LIST OF EXHIBITS

- Exhibit A - Services to be Provided by the Authority
- Exhibit B - Services to be Provided by the Consultant
- Exhibit C - Work Schedule
- Exhibit D - Fee Schedule