

**HIDALGO COUNTY**  
**Professional Engineering Services**  
**Contract # C-05-229-06-21**  
**Work Authorization Form**

**Work Authorization No. 2**

**THIS WORK AUTHORIZATION** is made pursuant to the terms and conditions of Article 1. of the Agreement made by and between the **HIDALGO COUNTY**, acting herein by and through Commissioner's Court, hereinafter called the "**Owner**," and, **R. GUTIERREZ ENGINEERING CORPORATION**, professional engineers of Pharr, Texas, hereinafter called "**Engineer**".

**PART 1. SCOPE OF WORK**

The purpose of this Work Authorization is for the **Engineer** to provide services in the development of the Tower Road project. Hidalgo County desires to improve Tower Road from a two-lane county road section to a multi-lane urban highway facility and from an unpaved road to a two lane with shoulders roadway section. The limits of work are from Moore Road on the north to Balli Road on the south. The length of the project is approximately 2.5 miles. The proposed work will consist of providing: preliminary engineering, schematic design, environmental assessment, surveying, right-of-way map and parcels, final design, construction plans and construction administration items for the project.

The project will be developed in two parts. Part 1 will cover from Moore Road to Rancho Blanco Road, a distance of approximately 1.0 miles. Part 2 will cover from Rancho Blanco Road to Balli Road, a distance of approximately 1.5 miles. The project will be developed in accordance with a schedule that would allow the project to be constructed in a manner more advantageous to the **Owner**. This project is anticipated to be let and constructed by the Texas Department of Transportation.

The scope of services to be provided by the **Owner** is identified in **Exhibit A – Scope of Services to be Provided by the Owner** attached hereto.

The scope of services to be provided by the **Engineer** is identified in **Exhibit B – Scope of Services to be Provided by the Engineer** attached hereto.

**PART 2. ESTIMATED COST**

The estimated cost for services under this Work Authorization is included in **Exhibit D – Fee Estimate**. The actual amount payable for services under this Work Authorization will be in accordance with Article 5.

**PART 3. PAYMENT**

Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Article 8.

**PART 4. FUNDING**

This Work Authorization No. 1 shall be funded through funding source:

Account No. 5-1202-431-00-122-006-0-334

Requisition No. \_\_\_\_\_ (must be included after CC approval)

**PART 5. PERIOD OF SERVICE**

This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate upon completion of the scope of services of the work as provided in Article 3.

**PART 6. RESPONSIBILITIES AND OBLIGATIONS**

This Authorization does not waive the parties' responsibilities and obligations provided under the Agreement.

**PART 7. ACCEPTANCE AND ACKNOWLEDGEMENT**

This Work Authorization is hereby accepted and acknowledged as indicated below and effective as of \_\_\_ day of \_\_\_\_\_, 2005.

ENGINEER:

R. Gutierrez Engineering Corporation

By: Ramiro Gutierrez  
Name: Ramiro Gutierrez, P.E.  
Title: President

OWNER:

COUNTY OF HIDALGO

By: Hector Tito Palacios  
Name: Hector "Tito" Palacios  
Title: Commissioner Pct. No. 2

By: Ramon Garcia  
Name: Ramon Garcia  
Title: County Judge

Approved by Commissioners' Court  
on 10-11-05

**LIST OF ATTACHMENTS**

- EXHIBIT A – Services to be Provided by the Owner
- EXHIBIT B – Services to be Provided by the Engineer
- EXHIBIT C – Work Schedule
- EXHIBIT D – Fee Estimate

**HIDALGO COUNTY**  
**Professional Engineering Services**  
**Contract # C-05-229-06-21**

**Work Authorization No. 2**

**EXHIBIT A**

**Services to be Provided by the Owner**

The following provides an outline of the services to be provided by the **Owner** in the development of the **Project**.

**General**

The **Owner** will provide to the **Engineer** the following:

- (1) Payment for work performed by the **Engineer** and accepted by the **Owner** in accordance with Article 5 and Article 6, both of this Agreement.
- (2) Assistance to the **Engineer**, as necessary, to obtain the required data and information from other local, regional, **State** and Federal agencies that the **Engineer** cannot easily obtain.
- (3) Provide any available relevant data the **Owner** may have on file concerning the project.
- (4) Provide timely review and decisions in response to the **Engineer's** request for information and/or required submittals and deliverables.
- (5) Attend and participate in progress meetings as required and as coordinated and conducted by the **Engineer**.

**HIDALGO COUNTY**  
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**EXHIBIT B**  
**Services to be Provided by the Engineer**

The following provides an outline of the services to be provided by the **Engineer** in the development of the **Project**.

The **Engineer** will provide to the **Owner** the following:

***PART I – PRELIMINARY PHASE***

The Engineer will perform, or provide for, professional engineering and surveying services for the preliminary engineering part of the **development and upgrading of Tower Road from county road standards to urban highway standards and from an unpaved road to a rural two-lane with shoulders section**. The engineer will set panels on the ground and establishing horizontal and vertical control for use in developing planimetrics for the Project. The Engineer will provide for an independent contractor to fly the project for the purpose of obtaining planimetrics for use in developing the project. The Engineer will develop a schematic of the proposed improvements.

**Field Surveying.** The Engineer will secure written permission to enter private property for the purpose of surveying and engineering investigations. The surveyor will establish primary Project control for field surveying by establishing horizontal and vertical control points, and establish secondary Project control for aerial photogrammetry to tie ground control to the State Plane Coordinate System.

**Aerial Survey.** The Engineer will subcontract with an independent contractor for providing a flight of the project and obtaining photogrammetry for the development of the project. The services to be provided by the independent contractor include: Contact Prints and mosaics; Planimetric maps; Contour maps; and a Digital Terrain Model (DTM).

**Schematic Design.** The Engineer will develop a final schematic design of the proposed project improvements. A maximum of two (2) different preliminary schematic designs will be developed and presented to the public at a public meeting. From the comments received at the meeting one (1) final schematic design will be developed.

## ***PART II – DESIGN PHASE***

The Engineer will perform, or provide for, professional engineering services for the plans, specifications and estimate part for of the development and upgrading of Tower Road as previously described.

**Plans Development.** The Engineer will perform, or provide for, professional, surveying, geotechnical and engineering design services for the preparation of plans for the development and upgrading of Tower Road. The engineer will perform field surveys to obtain additional information that was not gathered during the schematic design part of the project. Geotechnical investigations will be performed by the engineer to obtain necessary data for the proper design of the project. The engineer will provide for the engineering design services necessary for the development of the final construction plans, specifications and estimate for completing the project.

**Engineering Design.** The engineer will provide, or provide for, the development of the plans, specifications and estimate for the construction of the project. The plans will be developed to TxDOT standards, on 11"x17" sheets, and will be revised as necessary to meet TxDOT requirements. The plans will include, but not limited to, title sheet, project layout, specification data, estimate and quantity, typical sections, sequence of construction, traffic control plan, plan & profile, roadway & drainage layout, bridge layout & details (if necessary), culvert layout & details (as necessary), hydraulic data, drainage area map, drainage details, drain ditch details, storm water pollution prevention plan (SW3P), irrigation structure adjustment details, signing details, striping details, and traffic signal layout & details. The project cost estimate will be developed to meet TxDOT requirements and based on the unit price system of bidding. The engineer will not be required to guarantee the accuracy of those estimates.

The engineer will provide the horizontal and vertical design for the proposed roadway improvements. All vertical and horizontal alignment will be developed utilizing GEOPAK. The engineer will also provide the drainage design utilizing HEC-HMS, HEC-RAS, TR-55, Winstorm or other TxDOT approved methods. Plans will be developed utilizing Microstation J as the CADD software package. All other elements of design will be developed utilizing TxDOT approved and accepted methods. All design shall in all respects combine the application of sound engineering principles with a high degree of economy.

## ***PART III – CONSTRUCTION PHASE***

The Engineer will perform, or provide for, professional engineering services for the construction phase of the development and upgrading of Tower Road. The engineer will provide construction administration services as needed on the project. The engineer will assist TxDOT with issues that may come up and provide information and construction engineering services as requested by TxDOT. The engineer will act as Owner's representative in meetings concerning the construction of the project.

## **ADDITIONAL SERVICES**

The Environmental Assessment, Right-of-Way Mapping and Parcels, and Geotechnical Investigation work will be considered as an additional service as stipulated in the Agreement.

### **Environmental Assessment**

In general, this will include all ***environmental investigations and engineering*** activities required for the advance project development. Primarily, this will involve the research and coordination for the social, economic and environmental impacts, including public involvement of the **Project**. Specific activities to be provided by the **Engineer** will include:

Environmental Document Preparation:

- (1) The **Engineer** shall perform investigations and prepare an environmental document in accordance with the National Environmental Policy Act (NEPA) and the applicable Code(s) of Federal Regulations. The **Engineer** will prepare an environmental document ***in anticipation of a Finding of No Significant Impact (FONSI)***, as identified by the NEPA process. This document will include, at a minimum, the following:
  - (a) **Project** description
  - (b) need for **Project**
  - (c) alternatives considered
  - (d) impacts (socioeconomic, cultural resource, water resource, air quality, noise quality, biological, prime/unique farmland, construction impacts, hazardous materials)
  - (e) conclusion
  - (f) Project location map
  - (g) preliminary structure and channel locations/layouts
  - (h) scanned photographs

Agency and Public Coordination:

- (2) The **Engineer** shall coordinate with all resource agencies, government entities, and private landowners involved or impacted in the development of the **Project**. This will include individual meetings, newsletters and notices, as required.
- (3) The **Engineer** shall develop a **Project** coordination and mailing list.

Public Involvement:

- (4) The **Engineer** shall conduct and coordinate all public involvement in accordance with the National Environmental Policy Act (NEPA) and the applicable Code(s) of Federal Regulations.

- (5) The **Engineer** shall coordinate and conduct the following formal public meetings:
- (a) One Public Meeting – This meeting will be scheduled to present the **Project** concept, including the requirements and design schematic for the **Project**, for the purpose of obtaining preliminary public comment.
  - (b) One Public Hearing – After completion / preliminary approval of the environmental document and applicable approval to move the **Project** forward for further processing, a public hearing will be scheduled to present the approved draft environmental document and the **Project** layout (schematic) for the purpose of obtaining final public comment.
- (6) The **Engineer** shall prepare required presentation materials (including hand-outs, agenda, and sign-in roster) and exhibits for one public meeting and one public hearing.
- (7) The **Engineer** shall prepare and submit a written document summarizing each proceeding: one **Public Meeting Report** and one **Public Hearing Report**. These reports shall be incorporated into the Environmental Assessment.

#### **Right - Of - Way Mapping and Parcels**

The Engineer will develop a right-of-way map for the Owner to use in acquiring the necessary parcels to implement the project. Procedures followed will be those satisfying TxDOT requirements for federally funded projects. The surveyor will utilize ownership information provided by the Owner in developing the right-of-way map. The surveyor will perform field surveying to establish the existing and proposed right-of-way lines and easement boundaries. The surveyor will prepare field notes and parcel sketches, signed and sealed by a Registered Professional Land Surveyor, for each parcel to be acquired. The surveyor will perform any necessary revisions to the right-of-way map, field notes and parcel sketches as required to complete the project.

**Geotechnical Investigation.** The engineer will provide for the performance of a geotechnical investigation and testing for the purpose of pavement design, for the purpose of design of any bridges or bridge class culverts and for the purpose of determining the suitability of existing soils to be used in the proposed construction.

EXHIBIT "C"  
WORK SCHEDULE

|                                   | 2005 |     |     |     | 2006 |     |     |     |     |     |     |     |     |     |     |     | 2007 |     |     |     |     |     |     |     |     |     |     |     |   |
|-----------------------------------|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
|                                   | SEP  | OCT | NOV | DEC | JAN  | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN  | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |   |
| <b>PART I</b>                     |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| <b>Preliminary Phase</b>          |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Field & Aerial Surveying          |      |     | ■   | ■   | ■    | ■   |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Schematic Design                  |      |     |     | ■   | ■    | ■   | ■   | ■   | ■   |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| <b>Design Phase</b>               |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Surveying - Field Verification    |      |     |     |     |      |     | ■   | ■   | ■   | ■   | ■   |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Engineering                       |      |     |     |     |      |     | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| <b>Construction Phase</b>         |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Construction Administration       |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■ |
| <b>Environmental Assessment</b>   |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Prepare Environmental Assessment  |      |     | ■   | ■   | ■    | ■   | ■   | ■   | ■   | ■   | ■   | ■   | ■   |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Public Meetings                   |      |     |     |     |      | ■   |     |     |     |     |     | ■   |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| <b>Right-of-Way Acquisition</b>   |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| R.O.W. Map                        |      |     | ■   | ■   | ■    | ■   | ■   | ■   | ■   | ■   |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| <b>Geotechnical Investigation</b> |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |
| Geotechnical Investigation        |      |     |     |     |      | ■   | ■   |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |   |

NOTE: This schedule is developed based on OWNER providing timely review and approval of various items of work.

PART I WORK SCHEDULE



PART II WORK SCHEDULE



| TASK   | CONTRACT AMOUNT  | FEE BREAKDOWN    |                  |
|--|------------------|------------------|------------------|
|  |                  | PART 1 WORK      | PART 2 WORK      |
| <b>PRELIMINARY PHASE (50% of Fee)</b>                                  |                  |                  |                  |
| FIELD & AERIAL SURVEYING   | \$54,086         | \$20,538         | \$33,548         |
| SCHEMATIC DESIGN   | \$126,200        | \$47,922         | \$78,278         |
| <b>SUB-TOTAL</b>   | <b>\$180,285</b> | <b>\$68,460</b>  | <b>\$111,825</b> |
| <b>DESIGN PHASE (30% of Fee)</b>                                       |                  |                  |                  |
| SURVEYING - FIELD VERIFICATION   | \$27,043         | \$10,269         | \$16,774         |
| ENGINEERING  | \$81,128         | \$30,807         | \$50,321         |
| <b>SUB-TOTAL</b>   | <b>\$108,171</b> | <b>\$41,076</b>  | <b>\$67,095</b>  |
| <b>CONSTRUCTION PHASE (20% of Fee)</b>                                 |                  |                  |                  |
| CONSTRUCTION ADMINISTRATION  | \$72,114         | \$27,384         | \$44,730         |
| <b>SUB-TOTAL</b>   | <b>\$72,114</b>  | <b>\$27,384</b>  | <b>\$44,730</b>  |
| <b>TOTAL BASIC ENGINEERING FEES</b>                                    | <b>\$360,570</b> | <b>\$136,920</b> | <b>\$223,650</b> |
| <b>ENVIRONMENTAL ASSESSMENT (Add'l Service)</b>                        |                  |                  |                  |
| <b>ENVIRONMENTAL ASSESSMENT</b>  | \$40,000         | \$16,000         | \$24,000         |
| PUBLIC MEETINGS  | \$20,000         | \$10,000         | \$10,000         |
| <b>SUB-TOTAL</b>   | <b>\$60,000</b>  | <b>\$26,000</b>  | <b>\$34,000</b>  |
| <b>RIGHT-OF-WAY ACQUISITION (Add'l Service)</b>                        |                  |                  |                  |
| R.O.W. MAP   | \$60,200         | \$36,000         | \$24,200         |
| <b>SUB-TOTAL</b>   | <b>\$60,200</b>  | <b>\$36,000</b>  | <b>\$24,200</b>  |
| <b>GEOTECHNICAL INVESTIGATIONI (Add'l Service)</b>                     |                  |                  |                  |
| GEOTECHNICAL INVESTIGATION   | \$18,000         | \$7,200          | \$10,800         |
| <b>SUB-TOTAL</b>   | <b>\$18,000</b>  | <b>\$7,200</b>   | <b>\$10,800</b>  |
| <b>TOTAL ADDITIONAL SERVICES</b>                                       | <b>\$138,200</b> | <b>\$69,200</b>  | <b>\$69,000</b>  |
| <b>TOTAL ESTIMATED FEE</b>   | <b>\$498,770</b> | <b>\$206,120</b> | <b>\$292,650</b> |
| Part I - Basic Fee Based on 10.5% of Estimated Construction Cost of :  |                  |                  | \$1,304,000      |
| For a Base Engineering Fee of :  | \$136,920        |                  |                  |
| Part II - Basic Fee Based on 10.5% of Estimated Construction Cost of : |                  |                  | \$2,130,000      |
| For a Base Engineering Fee of :  | \$223,650        |                  |                  |