

HIDALGO COUNTY
Professional Construction Material Testing laboratory Services
Agreement # C-12-212-09-11.
Work Authorization Form

WORK AUTHORIZATION NO. 1

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioners' Court**, hereinafter called the "**Owner**," and, Raba Kistner Consultants, Inc. of McAllen, Texas, hereinafter called "**Laboratory**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the Laboratory to provide Geotechnical Engineering Services for the Tower Road Improvements Project -- Hidalgo County, Texas.

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 **Laboratory** is identified in *EXHIBIT "B" – Scope of Services to be Provided by the Laboratory* attached hereto.

PART 2. ESTIMATED COST

The estimated cost for the services under this Work Authorization is \$71,275.00. This amount is based upon the costs outlined in the Estimated Cost Proposal hereto as **EXHIBIT "C"**.

PART 3. PAYMENT

Compensation and payment to the Laboratory for the services established under this Work Authorization shall be made in accordance with Article/Part/Section _____ of the Agreement.

PART 4. FUNDING

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

Account No.

Requisition Number _____ (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 terminate upon completion of scopes of the work authorization.

PART 6. RESPONSIBILITIES AND OBLIGATIONS

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

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PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Hidalgo County Precinct No 2 Commissioner Hector "Tito" Palacios as to content and detail of this Work Authorization No 1.

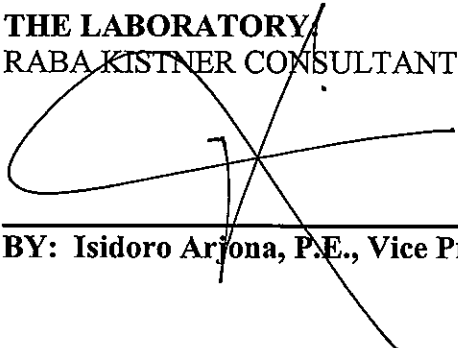
**HIDALGO COUNTY
COMMISSIONER PRECINCT NO 2**

BY: _____

PART 8 ACCEPTANCES AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below and effective as of _____ day of _____, 2012.

~~THE LABORATORY/
RABA KISTNER CONSULTANTS, INC.~~



BY: Isidoro Arjona, P.E., Vice President

**THE OWNER:
HIDALGO COUNTY**

Ramon Garcia, County Judge

ATTEST:

Arturo Guajardo Jr., County Clerk

EXHIBIT "A"

Services to be Provided by County

The following provides an outline of the services to be provided by the Owner in the development of Projects (as defined and more particularly identified in Exhibit "A" attached to this Agreement).

General:

The Owner will provide to the Laboratory the following:

- 1) Provide the authorization to proceed with services through coordination with the project consulting and design Laboratory.
- 2) Payment for work performed by the Laboratory and accepted by the Owner in accordance with Article 3 of this Agreement.
- 3) Assistance to the Laboratory, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the Laboratory cannot easily obtain.
- 4) Provide any available relevant data the Owner may have on file concerning the projects.
- 5) Provide timely review and decisions in response to the Laboratory's request for information and/or required submittals and deliverables, in order for the Laboratory to maintain the agreed upon work schedule prepared in accordance with Exhibit "A" attached to this Agreement.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by Laboratory.
- 7) Provide the authorization to proceed with services on project by project basis through consulting design and construction Laboratory.

Exhibit “B”

Services to be Provided by Laboratory

The services to be provided by the LABORATORY in providing Geotechnical Laboratory services, Construction Materials Testing Services, Construction Observation Services and Environmental Services for: Hidalgo County Precinct No.2 Projects, “ON A AS NEEDED BASIS” and projects is as follows:

A. Preliminary Phase:

- 1) Attend preliminary conferences with the OWNER and, if requested, with the funding agency and other government agencies or interested parties regarding the Project.
- 2) Provide for the necessary geotechnical investigation and testing necessary to develop design.
- 3) Provide environmental studies as may be necessary to complete a project.
- 4) Provide assistance to the OWNER in providing material requirements and specifications for design, construction and maintenance projects.
- 5) Provide assistance to the OWNER in providing pavement design recommendations for the design, construction and maintenance projects.
- 6) Provide assistance to the OWNER in providing pavement rehabilitation recommendations for the design, and maintenance projects.
- 7) Provide assistance to the OWNER in providing pavement condition studies.

B. Design Phase:

- 1) Attend the OWNER’S and respective Party’s meeting as requested for the purpose of explaining geotechnical investigation report recommendations and preliminary testing results and their impact to proposed design activities.
- 2) Perform any additional geotechnical investigations, testing and environmental studies necessary to collect information required in the design of the Project.
- 3) Provide assistance to the OWNER in providing material requirements and specifications for design, construction and maintenance projects.
- 4) Provide assistance to the OWNER in providing pavement design recommendations for the design, construction and maintenance projects.
- 5) Provide assistance to the OWNER in providing pavement rehabilitation recommendation for the design, construction and maintenance projects.
- 6) Provide assistance to the OWNER in providing pavement condition studies.
- 7) Furnish the OWNER all necessary report for preliminary design, design, and construction and maintenance projects.

C. Construction/Maintenance Phase:

- 1) Attend the OWNER’S and respective Party’s pre-construction and construction meetings as requested for the purpose of explaining geotechnical investigation report recommendation and preliminary testing results and their impact to proposed

- construction activities and establish coordination and lines of communication for proposed construction materials testing during construction activities.
- 2) Consult and advise with the OWNER during construction.
 - 3) Provide construction materials testing for construction and maintenance project as required by the project plans and specifications and/or specified by the project design Laboratory.
 - 4) Review all material designs as requested by the OWNER and/or project design Laboratory.
 - 5) Furnish the OWNER all necessary reports for construction and maintenance projects.
 - 6) Provide construction observation services as requested by the OWNER on construction and maintenance projects.

D. Miscellaneous/Other:

- 1) Act for Owner in professional manner, using that degree of care and skill ordinarily exercised by and consistent with the standards of the profession.
- 2) Perform all technical services under the general direction of a Licensed Professional Laboratory in the State of Texas and in substantial accordance with the basic requirements of the appropriate Standards of the American Society for Testing and Materials, where applicable, or other standards designated by County.
- 3) Employ testing machines which have been calibrated within a period not exceeding twelve (12) months from the time of use by devices of accuracy traceable to the National Institute for Standards and Technology (NIST) of the United States Department of Commerce, and, upon request, submit to the OWNER or its authorized representative documentation of such calibration.
- 4) Promptly submit formal construction materials testing reports for all tests, observations and services performed indicating where applicable, compliance with OWNER specifications or other documents. Such reports shall be completed and factual, citing the tests performed, methods employed, values obtained, parts of the structure and location at which tests were made.
- 5) The plans and specifications prepared under this Agreement shall become the property of the OWNER upon completion of the work and payment in full of all monies due to the Laboratory.
- 6) Retain all pertinent records relating to the services performed for a period of five (5) years following submission of all reports, during which period the records will be made available to the Owner within a reasonable time.

NOTE: Change in and/or additional services to Scope will require prior approval from Owner prior to undertaking.

Proposal No. PMA12-063-00 (Revised) **EXHIBIT "C"**
September 17, 2012

Commissioner Hector "Tito" Palacios
Hidalgo County Precinct No. 2
300 West Hall Acres, Suite G
Pharr, Texas 78577

**Raba Kistner
Consultants, Inc.**
800 E. Hackberry
McAllen, TX 78501
www.rkci.com

**P 956 :: 682 :: 5332
F 956 :: 682 :: 5487
TBPE Firm F-3257**

**Re: Proposal for Geotechnical Engineering Services
Proposed Tower Road Improvements -
Between Its Intersections with Rancho Blanco Road and
Approximately 900 ft. South of Juan Balli Road
Hidalgo County, Texas**

Dear Comm. Palacios:

On the basis of our meeting held today, and on our telephone conversations held on July 25, 2012, with Ramiro Gutierrez, P.E., President with R. Gutierrez Engineering Corporation, the project's consulting engineering firm, and with Mr. Raul Lozano, Administrator with Hidalgo County Precinct No. 2, **Raba Kistner Consultants, Inc. (RKCI)** thanks you for selecting our firm to provide Geotechnical Engineering Services to Hidalgo County Precinct No. 2 (CLIENT) for the above-referenced project. The broad objectives of our study will be to determine subsurface conditions along the subject alignment of Tower Road, to provide pavement section recommendations for the proposed road reconstruction, to develop information to be used by others concerning foundation recommendations for the proposed bridge structure over the existing pilot channel portion of the floodway, and to present our geotechnical analyses of the new levee relocation segments of the floodway in general accordance with the U.S. Army Corps of Engineers (USACE) document EM 1110-2-1913 *Design and Construction of Levees* as it pertains to geotechnical evaluations. Described in this letter are:

- our understanding of currently perceived project characteristics;
- our proposed scope for field and laboratory study;
- our proposed scope for engineering evaluation and reporting;
- our tentative project schedule; and
- our project lump sum fee.

PROJECT DESCRIPTION

Our understanding of the project is based on the documents received by our office during our meeting held with Mr. Gutierrez with the project's consulting engineering firm on Monday, May 7, 2012, our subsequent telephone conversations held with Mr. Gutierrez throughout the last two weeks, and the documents received by our office from Mr. Gutierrez via electronic-mail attachment on Monday, May 14, 2012.

We understand that the proposed project consists of the design and reconstruction of an approximately 1.7-mile long section of the existing Tower Road, between its intersections with Rancho Blanco Road and

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approximately 900 ft South of Juan Balli Road in Hidalgo County, Texas. The proposed road alignment for the urban portion is planned to be about 65-ft wide, with two lanes in each direction and a middle left turn lane; whereas for the rural portion, the road will be about 40-ft wide. The proposed final grade of the road alignment is planned to be at about the grade of the existing terrain elevation at the lowest portions of the road, and about 4 ft above the existing terrain elevation at the highest proposed road alignment, excluding the areas for the new levee relocation alignments.

We understand that the project also includes a bridge structure (about 44-ft wide by 150-ft long) to be located over the existing pilot channel of the floodway. Moreover, the project also includes the design and construction of two new levee relocation segments (one levee structure to be located at the intersection of the new Tower Road and the north side of the floodway and the other levee structure to be located at the intersection of the new Tower Road and the south side of the floodway).

Preliminarily, the new north levee relocation segment is anticipated to be about 1,000-ft long, and about 20 to 30 ft in height of new embankment. This segment is to be located about 250 ft north of its existing location. Similarly, the new south levee relocation segment is anticipated to be about 1,000-ft long, and about 18 ft in height of new embankment, and located about 250 ft south of its existing location.

The bridge structure is expected to create relatively moderate to heavy loads to be carried by the foundation system, which is anticipated to consist of a deep foundation system. The pavement systems are anticipated to consist of flexible (asphalt) pavement systems only.

FIELD STUDY

On the basis of geologic evidence and our past experience with subsurface conditions in the vicinity of this site, we propose to conduct the following drilling scheme along the subject road alignment:

Structure	Number of Borings	Depth, ft. *
Proposed New North & South Levee Relocation Structures	6	80
Proposed Bridge Over the Existing Pilot Channel	2	80
Existing and Proposed Tower Road	12	5

* below the existing ground/pavement surface elevation, or auger refusal, whichever occurs first.

Borings will be located in the field utilizing tape and right angle measurements from existing benchmarks. Our scope of services does not include surveying of the boring locations. However, **RKCI** recommends that the final boring locations be surveyed in the field by the CLIENT. We request that the CLIENT provide traffic control during our field exploration phase of our study, if warranted.

The borings to be conducted for the proposed bridge structure will be conducted using Texas Cone Penetration (TCP) techniques in general accordance with the Texas Department of Transportation (TxDOT) Geotechnical Manual, dated August 2006. Typically, drilling will cease if five consecutive TCP test results of 100 blows for less than 4 inches are recorded. If unexpected soil conditions are encountered (i.e. softer



than expected soil conditions based upon the TCP), drilling may be continued past the anticipated maximum scheduled drilling depth.

With the exception of the two bridge borings, samples will be taken using conventional split-spoon and/or Shelby tube sampling techniques. In order to collect samples from the two bridge borings for laboratory testing purposes, split-spoon or Shelby tube sampling techniques will be used between selected TCP sampling events. Representative portions of the samples will be sealed, identified, packaged, and transported to our laboratory for subsequent testing and classification.

Please note that prior to our drilling operations, **RKCI** requires that the **CLIENT** provide a permit issued by the International Boundary and Water Commission (IBWC) to allow our drilling crew to access the portion of the project alignment located within the existing floodway. The borings that will be conducted for the proposed bridge and road alignment inside the existing floodway structure, as well as on the new levee structures, will be backfilled with grout in general accordance with IBWC guidelines.

Upon completion of drilling activities, water level readings, if applicable, will be recorded in the open boreholes. The boreholes conducted in the areas outside of the IBWC jurisdiction (i.e. outside of the floodway and the north and south levee areas) will be backfilled using the auger cuttings generated during the drilling operations. The upper six inches of each boring will be patched with a cement-aggregate mixture and flushed with the adjacent ground/pavement surface elevation.

LABORATORY STUDY

Upon completion of the subsurface exploration, a general testing program will be designed to define the classification and shrink/swell characteristics of the subsurface conditions. The testing program is anticipated to include water content determinations, Atterberg limits (plasticity) tests, unconfined compressive strength tests, dry unit weight determinations, lime series determinations, sulfate content determinations, grain size analyses to include D50 and D95 computations, consolidation tests and consolidated undrained (CU-bar) Triaxial shear strength tests.

In addition to the above-described testing program, representative surficial specimens will be obtained from the pavement borings and will be subjected to a California Bearing Ratio (CBR) test. The CBR testing will provide information regarding inundated strength and swell characteristics of the surficial subgrade soils for direct use in pavement design analyses, which will be conducted in accordance with the 1993 American Association of State Highway and Transportation Officials (AASHTO) pavement design method. We anticipate that two CBR tests will be required for this project.

ENGINEERING ANALYSIS AND REPORT

The field and laboratory phases of the study will be reviewed by our staff of engineers. The results of our review, together with the supporting field and laboratory data, will be presented in a written, engineering report. Included therein will be recommendations concerning the design and construction of the foundation systems for the proposed bridge structure, recommendations for the design and



reconstruction of the pavement systems for the proposed road alignment, and our geotechnical analyses pertaining to settlement, seepage, and global stability of the new levee relocation segments of the floodway in general accordance with the USACE document EM 1110-2-1913 *Design and Construction of Levees* as it pertains to geotechnical evaluations. The Geotechnical Engineering Report may also include the following information and recommendations:

- A summary of the field and laboratory sampling and testing program;
- Boring logs and laboratory testing results;
- A review of the general site conditions including a description of the site, the subsurface stratigraphy, groundwater conditions, and the presence and condition of fill materials, if encountered.
- Foundation design considerations and recommendations, including:
 - expansive, soil-related movements using an empirical method for predicting Potential Vertical Rise (PVR) developed by the Texas Department of Transportation (TxDOT);
 - deep foundation recommendations;
 - allowable soil-bearing capacities;
 - settlement estimations, where applicable; and
 - groundwater considerations.
- Foundation construction considerations, including:
 - site drainage;
 - site preparation;
 - select fill materials;
 - deep foundation excavations;
 - potential reuse of on site materials as select fill materials;
 - excavation considerations; and
 - fill placement compaction requirements.
- Seismic region condition evaluations.

Also included in the report will be pavement section design and construction recommendations for the proposed road alignment. These recommendations will be based on the results of the classification testing and the CBR tests and will be based utilizing the 1993 AASHTO pavement design method. Definitive projections of anticipated traffic loading and grading plans will be required to complete our design. It is our assumption that this information will be provided by the CLIENT or their representative.

Since site grading plans can result in changes in the foundation and pavement subgrade conditions, final site grading plans will be helpful information in the preparation of engineering recommendations. In the absence of final site grading information, we will prepare recommendations based on the existing ground surface elevations.



The final report will be reproduced in three, spirally-bound copies.

TENTATIVE PROJECT SCHEDULE

Based on our present workload and weather permitting, it is anticipated that the field exploration phase of this study can begin within five working days of receiving written authorization to proceed, provided that the site is accessible to our truck-mounted drill rigs, the CLIENT has supplied us with necessary permits and all available information regarding existing utilities and below-grade structures on site, and that the CLIENT provides the necessary traffic control, if warranted, in order for us to conduct our field activities. The field exploration and laboratory testing phases of the study are expected to take approximately twenty-five working days to complete. The engineering report will be submitted within an additional fifteen working days following completion of the laboratory testing. The above schedule does not account for delays due to inclement weather. We will be pleased to provide the design team with verbal design information as the data becomes available.

LUMP SUM COST

The total lump sum cost for the study outlined herein is \$71,275.00. Should unusual subsurface conditions be encountered in the field that indicate the desirability of significantly broadening the scope of the study, we will contact you to receive written authorization before proceeding with any additional work. Additional services will be billed on a unit basis in accordance with our standard fees as indicated on the attached Schedule of Fees for Professional Services.

RKCI has been provided with a site plan illustrating the limits of the subject road alignment project, as well as preliminarily project information. It is our understanding that access to all boring locations for a conventional, truck-mounted drilling rig, underground utility clearance, required permits and traffic control will be provided by the CLIENT prior to our field exploration services.

It should be noted that our study scope (and project cost) does not include plan review or earthwork and foundation excavation observations during the construction of the project. However, plan review and construction observation costs should be included in the project budget.

It should also be noted that our study scope (and project cost) does not include professional time or travel expenses for participation in design team meetings. If these services are required, they will be billed at our standard billing rates for professional time plus expenses.

ACCEPTANCE

We appreciate the opportunity of submitting this proposal and look forward to working with you in the development of this project, which will be carried out accordance with this letter and the following attachments:



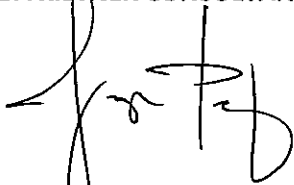
<u>Attachment</u>	<u>Description</u>
I	Standard Terms and Conditions
II	Schedule of Fees

Please return one signed original of this contract to provide written authorization for our firm to commence work on the services outlined herein. Our invoices are due and payable upon receipt at P.O. Box 971037, Dallas, Dallas County, Texas 75397-1037.

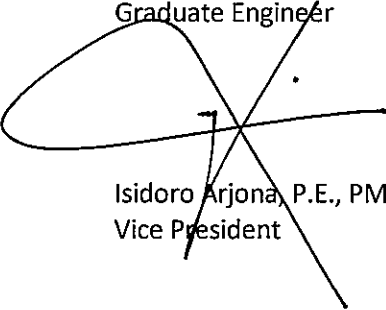
RKCI considers the data and information contained in this proposal to be proprietary. This statement of qualifications and any information contained herein shall not be disclosed and shall not be duplicated or used in whole or in part for any purpose other than to evaluate this proposal.

Very truly yours,

RABA KISTNER CONSULTANTS, INC.



Jorge L. Perez
Graduate Engineer



Isidoro Arjona, P.E., PMP
Vice President

Accepted By: _____
(Signature)

(Typed or Printed Name)

(Title)

(Date)

Copies submitted: Above (2)

JLP/IAA

Attachments

