



AGENDA
DRAINAGE DISTRICT
BOARD OF DIRECTORS
December 15, 2015
9:00 A.M.

NOTICE is hereby given in accordance with Chapter 551, Texas Government Code, that a SPECIAL MEETING of the Drainage District #1 Board of Directors will be held in the Commissioners' Courtroom of the Administration Building, 100 E. Cano, 1st floor, Edinburg, Hidalgo County, Texas. Discussion and possible action relating to the following business will be transacted:

1. **Roll Call**
2. **Prayer**
3. **Open Forum**
4. **Approval of Consent Agenda**
5. Discussion on Hidalgo County Drainage District No. 1 Drainage projects, maintenance and operations
6. **AI -52666** Request approval of Supplemental Agreement No. 1 of Agreement for Professional Engineering Services between Hidalgo County Drainage District No. 1 and L&G Engineering for the management and professional engineering services for the Mission Inlet Recertification Project. Subject to legal review.
7. **AI -52641** Requesting approval to submit Application for Federal Assistance Hazard Mitigation Grant as it relates to various Drainage District projects and approval to allow Drainage District General Manager to sign applications.
8. **AI -52642** Requesting approval to to pay Invoice No. M-1918 in the amount of \$2,320.00 as claim to Rio Valley Switching Company as it relates to repairs to Railroad crossing at Bus 83 and Mile 2 East.
9. **AI -52646** Requesting approval of WA No. 5 to Mission Inlet Recertification agreement with L&G Engineering in the amount of \$1,287,482.53 as it relates to Engineering Services for Mission Inlet.

- 10. AI -52655 2013 BOND SERIES**
Requesting approval of Work Authorization No. 20 to Pct. 1 2012 Bond Referendum agreement with TEDSI Infrastructure in the amount of \$68,794.30 as it relates to Preliminary Engineering Report for Old River Road Area.
- 11. AI -52652 2013 BOND SERIES**
Requesting approval of Work Authorization No. 3 to On Call CMT Services Pct. #2, Pct. #3, Pct. #4 & HCDD1 Master Drainage System agreement with L&G Engineering in the amount of \$12,986.82 as it relates CMT Services for North Branch Drain & Mile 17 1/2 Project.
- 12. AI -52650 2013 BOND SERIES**
Requesting approval of Work Authorization No. 4 to Pharr McAllen Drain & South Flood Water Channel Watershed Improvement agreement with L&G Engineering in the amount of \$299,985.95 as it relates to Engineering Services for South Pharr / Las Milpas South Floodwater channel.
- 13. AI -52635** A. Presentation by Hidalgo County Drainage District No. 1 Financial Advisor; Estrada and Hinojosa with respect to the issuance, sale and delivery of Hidalgo County Drainage District No.1 Unlimited Tax Refunding Bonds, Series 2016.

B. "Consider and approve a resolution authorizing issuance, sale and delivery of Hidalgo County Drainage District No. 1 Unlimited Tax Refunding Bonds; Series 2016; delegating certain authority to the County Judge and the Financial Officer of the District pursuant to the provisions of Texas Government Code, Sections 1207.007 and 1207.008; payable from the levy of a direct and continuing unlimited annual ad valorem tax pursuant to the provisions of Chapter 56, Texas Water Code; authorizing the refunding of certain outstanding obligations; authorizing the execution of a bond purchase contract; approving an official statement, execution of an escrow and trust agreement, and making other provisions regarding such bonds and matters incident thereto."
- 14. AI -52664** Consider and approve a resolution amending an order authorizing the issuance, sale, and delivery of Hidalgo County, Texas Drainage District No. 1 Unlimited Tax Improvement Bonds, Series 2008, dated April 1, 2008, in the original principal amount of \$72,000,000 to allow the Drainage District to fund a refunding escrow in accordance with the provisions of Texas Government Code, section 1207.00, et seq., and making other provisions incident thereto

15. **AI -52638** Approval of the 2016 Revised Salary Schedule for Hidalgo County Drainage District No. 1

16. **AI -52624** In accordance with Water Code Section 49.057 and Subchapter A of Government Code, Section 2254, requesting approval to engage the firm of Atlas, Hall & Rodriguez, LLP with regard to Notice of Claim - Josie Moreno & Tonie Moreno, et al v. Drainage District No. 1 at the same rate as established between the County of Hidalgo and the Firm

17. **Closed Session:**
Board of Directors may go into Closed Session pursuant to Chapter 551, Texas Government Code, Sections 551.071 & 551.072 to discuss the following:
 - A. **Real Estate Acquisition**

 - B. **Pending and/or Potential Litigation**

 - C. **AI -52607** Notice of Claim - Josie Moreno & Tonie Moreno, et al v. Drainage District No. 1

18. **Open Session:**
 - A. **Real Estate Acquisition**

 - B. **Pending and/or Potential Litigation**

 - C. **AI -52608** Notice of Claim - Josie Moreno & Tonie Moreno, et al v. Drainage District No. 1

19. **Closed Session:**
Board of Directors may reconvene into Closed Session for the discussion regarding the agenda items listed

20. **Open Session:**
Board of Directors may reconvene into Open Session for the discussion regarding the agenda items listed

21.

Adjourn

AI -52666

6.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted By: Claudette Guerrero,
DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Request approval of Supplemental Agreement No. 1 of Agreement for Professional Engineering Services between Hidalgo County Drainage District No. 1 and L&G Engineering for the management and professional engineering services for the Mission Inlet Recertification Project. Subject to legal review.

BACKGROUND

Fiscal Impact

Attachments

Agreement-Mission Inlet

SA#1 to Agreeemt Prof. Svc-Mission Inlet Recert.

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 03:39 PM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Claudette Guerrero		Started On: 12/11/2015 02:57 PM
Final Approval Date: 12/11/2015		

THE STATE OF TEXAS §

COUNTY OF HIDALGO §

AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES

THIS AGREEMENT is made, by and between **HIDALGO COUNTY DRAINAGE DISTRICT NO. 1** hereinafter called the “**Owner**”, and **L&G ENGINEERING** professional **Engineers**, hereinafter called the “**Engineer**”.

WITNESSETH:

WHEREAS, the **Owner** desires to contract with the **Engineer** to provide management and professional **Engineering** services for the **MISSION INLET RECERTIFICATION** hereinafter referred to as the “**Project**”.

NOW, THEREFORE, the **Owner** and the **Engineer** in consideration of the mutual covenants and agreements herein contained do mutually agree as follows:

ARTICLE 1. Employment of Engineer. The **Owner** agrees to employ the **Engineer** and the **Engineer** agrees to perform management and professional **Engineering** services in connection with the “**Project**” as stated in the articles to follow and for having rendered such services, the **Owner** agrees to pay the **Engineer** compensation as stated in the articles to follow.

ARTICLE 2. Character and Extent of Services. This Agreement will provide for the development of the “**Project**” with the following:

2.1 Scope of Work. The **Owner** will furnish items and provide those services for the development of the “**Project**” and fulfillment of this Agreement, as identified in **EXHIBIT “A”** *Services to be Provided by the Owner*, attached hereto and made a part of this Agreement and the **Engineer** will provide professional management and **Engineering** services identified in **EXHIBIT “B”- Services to Provided by the Engineer, attached hereto and made a part of this agreement.**

I. General Contract Management (hereinafter referred to as “GCM”). For GCM, the primary role of the **Engineer** will be to perform professional management services. The **Engineer** as GCM manager, shall direct all tasks required by the project team (hereinafter referred to as “**Project Team**” and identified in the organizational chart shown in **EXHIBIT “B2”-Project Team**, attached hereto), consisting of various subconsultants, in the development of the project. As GCM manager, the **Engineer** shall organize and manage the project team, including: assigning the various **Engineering** work tasks; directing and controlling the work; planning, conducting, and documenting internal and external meetings; stabilizing policy, procedures, and quality assurance; and furnishing the necessary technical and support staff to implement the preliminary project planning and development (including, but not limited to, the identification and procurement of funding, and the development of a capital improvement program), preliminary **Engineering**, final design, and construction of the project.

II. Preliminary Project Planning & Development. For preliminary and development of the project, the primary role of the **Engineer** will be to perform **Engineering** activities and work tasks associated with the preparation of an environmental document, public involvement, and the development of primary and secondary project field control through field surveying and aerial mapping.

III. Preliminary Engineering, Final Design & Construction. For these services, the **Engineer** will be performing **Engineering** activities as follows:

(A) **Preliminary Engineering.** As identified in **EXHIBIT "A"**, attached hereto, the **Owner** shall provide to the **Engineer** any available relevant data the **Owner** may have on file concerning the project for the **Engineer** to review. The **Engineer** will indicate of any errors and omissions and corrections needed as a basis for the final design of the project. The **Engineer** will prepare a report, hereinafter referred to as the "**Preliminary Engineering Report**". The "**Preliminary Engineering Report**" will be prepared by the **Engineer** in sufficient detail to indicate clearly the problems involved and the alternate solutions available to the **Owner**, to include preliminary layouts, sketches, and cost estimates and to set forth clearly the **Engineer's** recommendations for the final design of the project. The **Engineer's** recommendations for the final design of the project shall meet all federal, state and county permitting requirements.

(B) **Final Design.** Upon approval by the **Owner** of the **Engineer's** final recommendations, as shown in the "**Preliminary Engineering Report**", the **Engineer** will perform all required **Engineering** tasks, as more particularly identified in **EXHIBIT "B"**, attached hereto, to provide the **Owner** with a complete and approved set of plans, specifications, and estimates (incorporated herein by reference as "PS&E" for each phase of construction of the project.

(C) **Construction.** The **Engineer** will provide construction phase **Engineering** services for each phase of construction of the project that is authorized and funded by the **Owner** for construction. The steps or sequence for the professional management and **Engineering**

services outlined for the scope of work above, and more particularly identified in EXHIBIT "B", attached hereto, may be performed concurrently by the **Engineer**, if approved by the **Owner**.

2.2 Classification of Services For this Agreement, the professional services to be provided by the **Engineer**, are more particularly identified in **EXHIBIT "B"**, attached hereto.

(1) **Basic Services:** Basic Services, incorporated herein by reference as "**Basic Services**", includes those professional services not otherwise identified under Article 5.2 of this Agreement.

(2) **Special Services:** Special services, incorporated herein by reference as "**Special Services**", includes those professional services identified under Article 5.2 of this Agreement.

2.3 Schedule of Work. The **Engineer** shall prepare a schedule of work (hereinafter referred to as "**Work Schedule**") in accordance with the terms identified in **EXHIBIT "C" - *Work Schedule***, attached hereto and made a part of this Agreement.

ARTICLE 3. Period of Service. Upon execution of this Agreement, the **Engineer** shall proceed with the work outlined under Article 2 hereof.

3.1 Termination Date. This Agreement shall terminate on April 9, 2016 (hereinafter referred to as the "**Termination Date**"), unless extended by written supplemental agreement, as provided in Article 8 hereof, duly executed by the **Engineer** and the **Owner** prior to the **Termination Date**, or otherwise terminated as provided in Article 3.4 herein and below. The **Owner** assumes no liability or obligation for payment to the **Engineer** for work performed or costs incurred by the **Engineer** prior to the date authorized by the **Owner** for the **Engineer** to begin work, during periods when work is suspended, or subsequent to the **Termination Date**.

3.2 Extension of the Termination Date. The **Engineer** shall notify the **Owner** in writing as soon as possible if it is determined, or reasonably anticipated, that the work under this Agreement cannot be completed before the **Termination Date**, and the **Owner** may , at the **Owner's** sole discretion, extend the **Termination Date** by written supplemental agreement as provided in Article 8 hereof. The **Engineer** shall allow adequate time for review and approval by the **Owner** of the written notice and request by the **Engineer** to extend the **Termination Date**.

3.3 Suspension of Work. Should the **Owner** desire to suspend the work under this Agreement, but not terminate this Agreement, the **Owner** shall provide thirty (30) calendar days verbal notification to the **Engineer**, followed by written confirmation from the **Owner** to the **Engineer** to that effect. The thirty-day notice may be waived as agreed in writing by both the **Owner** and the **Engineer**. The work under this Agreement may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from the **Owner** to the **Engineer**. The sixty-day notice may be waived as agreed in writing by both the **Owner** and the **Engineer**.

If the **Owner** suspends the work, the **Termination Date** as identified above is not affected, and this Agreement will terminate on the date specified, unless extended by written supplemental agreement, as provided in Article 8 hereof, duly executed by the **Engineer** and the **Owner** prior to the **Termination Date**.

3.4 Termination of Agreement. This Agreement may be terminated before the stated **Termination Date** identified in Article 3.1 herein by any of the following conditions:

- (1) **Commitment of Current Revenues.** In the event that, during any term hereof, the **Owner** does not appropriate sufficient funds to meet to the obligations of this Agreement, the **Owner** may terminate this Agreement upon thirty (30) days written notice to the **Engineer**. The **Owner** agrees, however, to use reasonable efforts to

secure funds necessary for the continued performance of this Agreement. The parties intend this provision to be a continuing right to terminate this Agreement at the expiration of each budget period of the **Owner** pursuant to the provisions of Tex. Loc. Govt. Code Ann. §271.903 (Vernon Supp. 1995).

- (2) By mutual agreement and consent, in writing, of both the **Engineer** and the **Owner**.
- (3) By the **Owner**, upon failure of the **Engineer** to fulfill the **Engineer's** obligations set forth herein in a satisfactory manner as determined by the **Owner** and in sole opinion of the **Owner**, after the **Owner** provides written notice to the **Engineer** of such failure and the **Engineer** has not corrected such failure within (30) days of such written notice by the **Owner**.
- (4) By the **Engineer**, upon failure of the **Owner** to fulfill the **Owner's** obligations set forth herein, after the **Engineer** provides written notice to the **Owner** of such failure and the **Owner** has not corrected such failure within thirty (30) days of such written notice by the **Engineer**.
- (5) By the **Owner** without cause upon thirty (30) days written notice to the **Engineer**.
- (6) By satisfactory completion of all services and obligations described herein.

Should the **Owner** terminate this Agreement as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to the **Engineer** notwithstanding anything herein to the contrary. In determining the value of the work performed by the **Engineer** prior to termination, the **Owner** shall be the sole judge of the value of such work performed. Compensation for work at termination will be based on a percentage of the work completed at that time. Should the **Owner** terminate this Agreement under (5) of the paragraph above, the amount charged during the thirty (30) day notice period shall not exceed the amount charged during the preceding thirty (30) days.

If the termination of this Agreement is due to the failure of the **Engineer** to fulfill the **Engineer's** obligations under this Agreement, the **Owner** may take over the "**Project**" and prosecute the work to completion. In such case, the **Engineer** shall be liable to the **Owner** for any additional cost occasioned by the **Owner**.

If the **Engineer** defaults in the performance of this Agreement or if the **Owner** terminates this Agreement for fault on the part of the **Engineer**, the **Owner** will give consideration to payment of an amount in settlement to include: the actual costs incurred by the **Engineer** in performing the work to the date of default, the amount of work required which was satisfactorily completed to date of default, the value of the work which is usable to the **Owner**, the cost to the **Owner** of employing another consultant and/or firm to complete the work required and the time required to do so, and other factors which affect the value to the **Owner** of the work performed at the time of default. This Agreement shall not be considered as specifying the exclusive remedy for any default by the **Engineer**, but all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

The termination of the Agreement and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of the **Owner** and the **Engineer** under this Agreement, except the obligations set forth in Articles 11.2, 12, 13, 15, 16, 17, 18.3, 19, 22 and 26 hereto.

ARTICLE 4. Progress and Coordination. The **Engineer** shall, from time to time during the progress of the work, confer with the **Owner**. The **Engineer** shall prepare and present such information as may be pertinent and necessary, or as may be requested by the **Owner**, in order to evaluate features of the **Engineer's** services and work.

At the request of the **Owner** or the **Engineer**, conferences shall be provided at the **Engineer's** office, the office of the **Owner**, or at other locations designated by the **Owner**. These conferences shall also include evaluation of the **Engineer's** services and work when requested by the **Owner**.

All applicable study reports shall be submitted in preliminary form for approval by the **Owner** before the final report is issued. The **Owner's** comments regarding the **Engineer's** preliminary report will be addressed by the **Engineer** in the final report.

If funds by other agencies or entities are to be used for the development of the "**Project**" under this Agreement, the **Engineer's** services and work will be subject to periodic review and approval by other agencies or entities, including those of the city, county, state and/or federal agencies.

Should it be determined that the progress in the production of the **Engineer's** services and work does not satisfy the requirements of the approved **Work Schedule** as provided by **Exhibit "C"**, attached hereto, the **Owner** shall review the approved **Work Schedule** with the **Engineer** to determine the corrective action needed by either the **Owner** or the **Engineer**.

The **Engineer** shall promptly advise the **Owner** in writing of events which have a significant impact upon the progress of the **Engineer's** services and work and the approved **Work Schedule**, including:

- (1) problems, delays, adverse conditions which will materially affect the ability to attain contract objectives, prevent the meeting of time schedules and goals, or preclude the timely completion and submittal of "**Project**" deliverables by the **Engineer** within established time periods; this disclosure will be accompanied by a statement by the **Engineer** of recommended or immediate action taken, or contemplated, and any **Owner** or other agency or entity assistance needed to resolve the situation: and
- (2) favorable developments or events which enable meeting the **Work Schedule** goals sooner than anticipated.

ARTICLE 5. Compensation and Fees. For and in consideration of the services to be rendered by the **Engineer**, the **Owner** shall compensate the **Engineer** as follows:

5.1 Basic Services. For and in consideration of the Basic Services to be rendered by the Engineer, as identified in Article 2 and more particularly identified in EXHIBIT "B", attached hereto, the maximum amount payable by the Owner to the Engineer for Basic Services, subject to adjustment in accordance with Article 6.1 herein, is equal to nine percent (9%) of the construction cost of the Project, as mutually-agreed between the Owner and the Engineer and more particularly defined in Article 6.1 herein, (hereinafter referred to as the "Basic Services Fee"), plus up to an additional one-half percent (0.5%) if the Engineer furnishes the requirements for incentives specified in Article 5.3 herein, as more particularly described in EXHIBIT "D2"

5.2 Special Services. Those services that may be required to provided by the **Engineer** as *Special Services* are set forth below and more particularly described in **EXHIBIT "B"**, attached hereto. For and in consideration of these *Special Services* rendered as required by the **Engineer**, the **Owner** shall pay the **Engineer** a negotiated lump sum fee (hereafter referred to as "**Special Services Fee**") at the hourly labor rates and non-labor rates (hereinafter referred to as "**Contract Rates**") specified in **EXHIBIT "D" - Contract Rates**, attached hereto and made a part of this Agreement, and as follows:

1. **RESIDENT OR SITE ENGINEER, INSPECTOR** Actual performance of services of "**Project**" site **Engineer**, resident **Engineer** and/or inspector, if required by **Owner**.
2. **DOCUMENT COPIES** Actual performance and/or providing of additional copies (over 10) of report; additional copies (over 10) of plans (contract drawings), specifications and estimates (PS&E); additional copies (over 10) of bidding documents; additional copies (over 10) of as-built drawings.
3. **EXTRA TRAVEL** Extra travel required of **Engineer** and authorized by **Owner** to points outside of **HIDALGO COUNTY DRAINAGE DISTRICT NO. 1**.
4. **EXPERT WITNESS** Assistance to the **Owner** as expert witness in any litigation with third parties, arising from the development or construction of the "**Project**".

5. **MISCELLANEOUS.** Investigations involving detailed consideration of operation, maintenance and overhead expenses and (unless otherwise agreed) the preparation of rate schedules, earning and expense statements; preparation of feasibility studies; environmental document preparation; appraisals, valuations, and material audits; or inventories required for certification of force account construction performed by the **Owner**; preparation of change orders for extra work done by the **Contractor**.

5.3 Incentives. The **Owner** shall provide an incentive opportunity to the **Engineer** in consideration for services rendered regarding the corporate sponsorship performed by the **Engineer**, as more particularly identified in **EXHIBIT "B"** (under Funding Sources), attached hereto, for obtaining funding from potential funding sources for the **Project**. This incentive is stated in **Exhibit "D2"-Funding Source Incentive**, attached hereto and made a part of this Agreement. Payments to the **Engineer** for meeting the incentive requirements will be made by the **Owner**, upon presentation of the **Request for Payment** by the **Engineer** in accordance with the terms and provisions of Article 6 hereof.

ARTICLE 6. Method of Payment.

6.1 Request for Payment. Payments to the **Engineer** for services rendered will be made while work is in progress as executed through a lump sum fee assigned to each work authorization (hereinafter referred to as "**Work Authorization**") in accordance with **Article 7** herein. For each **Work Authorization**, the **Engineer** shall prepare and submit to the **Owner** monthly progress reports in sufficient detail to support the progress of the work and in support of a request for payment (hereinafter referred to as "**Request for Payment**"). The progress report shall indicate the percent completion of the work accomplished by the **Engineer** during the billing period and to the date of the **Request for Payment**. On or before noon of the first Monday of each month during the performance of the services, the **Engineer** shall submit to the **Owner** for approval a **Request for Payment**. Payment of the lump sum fee for each **Work Authorization** identified in the **Request for Payment** will be in proportion to the percent completion of the work tasks identified in such **Work Authorizations** together with a detailed breakdown of the amount and the sum of all prior payments. The **Owner** shall review each

such **Request for Payment** and may make such exceptions as the **Owner** reasonably deems necessary or appropriate under the circumstances then existing. About ten (10) working days after the Commissioners Court of the **Owner** meets approving such payment, the **Owner** shall make payment to the **Engineer** in the amount approved as aforesaid subject to Article 6.4 herein and below.

Should the **Project** or portions of the **Project** be awarded for construction, the **Owner** will reconcile and determine the final maximum amount payable for the **Basic Services Fee**, as identified in Article 5.1 hereof, for that portion of the Project that has been awarded for construction as follows:

(1) Construction Cost-An estimated construction cost will be developed for each phase of the project, and be updated throughout engineering (advance planning, final design and plans and specifications) development. A construction cost will be mutually agreed between the Owner and the Engineer in writing at the time of submittal of the final plans and specifications to the Owner (the "Final Estimated Construction Cost"). A fee will be calculated as nine percent (9%) of the Final Estimated Construction Cost ("Preliminary Basic Services Fee"). After the project is constructed, and the final construction cost of the project is determined, the Preliminary Basic Services Fee will be adjusted no more than plus or minus then percent (+/-10%) as follows:

(a) If the final construction cost of the project is more than the Final Estimated construction Cost, the Basic Services Fee for engineering will be adjusted up, but the adjustment will be no more than plus ten percent (+10%) of the Preliminary Basic Services Fee; or,

(b) If the final construction cost of the project is less than the Final Estimated Construction Cost, the Basic Services Fee for engineering will be adjusted down, but the adjustment will be no more than minus ten percent (-10%) of the Preliminary Basic Services Fee.

(2) Incentives – The portion of the Basic Services Fee for funding incentive will be reconciled and based on funding received at the time of reconciliation.

This reconciliation and determination by the **Owner** will be performed on a yearly basis throughout the development of the **Project**, and within the period of service established in Article 3. Payment due to the **Engineer** or credit owed to the **Owner** by the **Engineer** in the amount of this reconciliation and determination shall be applied to the next applicable **Request for Payment**.

6.2 Final Payment. After final completion of the work and acceptance thereof by the **Owner**, the **Engineer** shall submit a final request for payment ("**Final Request for Payment**") which shall set forth all amounts due and remaining unpaid to the **Engineer** and upon approval thereof by the **Owner**, the **Owner** shall pay to the **Engineer** the amount due ("**Final Payment**") under such **Final Request for Payment** in accordance with the provisions of Article 6.1 hereof. The **Final Payment** shall not be made until the **Engineer** delivers to the **Owner** an affidavit that so far as the **Engineer** has knowledge or information any and all amounts due for materials and services over which the **Engineer** has control have been paid.

6.3 Qualification on Obligations to Pay. Any provision hereof to the contrary notwithstanding, the **Owner** shall not be obligated to make any payment (whether a payment under Article 6.1 hereof or **Final Payment**) to the **Engineer** hereunder if any one or more of the following conditions precedent exist:

- (1) The **Engineer** is in default of any of its obligations hereunder or otherwise is in default under this Agreement or under any contract documents related to this Agreement;
- (2) Any part of such payment is attributable to the **Engineer's** services which are not performed in accordance with this Agreement; provided, however, such payment shall be made as to the part thereof attributable to the **Engineer's** services which were performed in accordance with this Agreement.
- (3) The **Engineer** has failed to make payments promptly to consultants or other third parties used in connection with the "**Project**" for which the **Owner** has made payment to the **Engineer**;

- (4) If the **Owner**, in good faith judgment, determines that the portion of the compensation then remaining unpaid will not be sufficient to complete the **Engineer's** services in accordance with this Agreement, no additional payments will be due the **Engineer** hereunder unless and until the **Engineer**, at its sole cost, performs a sufficient portion of the **Engineer's** services so that such portion of the compensation then remaining unpaid is determined by the **Owner** to be sufficient to so complete the **Engineer's** services.

6.4 No partial payment made hereunder shall be or construed to be final acceptance or approval of that part of the **Engineer's** services to which such partial payment related or relieves the **Engineer** of any of its obligations hereunder with respect thereto.

6.5 The **Engineer** shall promptly pay all bills for labor and material performed and furnished by others in connection with the performance of the **Engineer's** services.

6.6 **Waiver.** The making of the **Final Payment** shall constitute a waiver of all claims by the **Owner** except those arising from (1) faulty or defective services of the **Engineer** appearing after completion of the "**Project**". (2) failure of the **Engineer's** services to comply with the requirements of this Agreement or any contracts or Agreements related to the "**Project**", or (3) terms of any special warranties required by this Agreement or provided at law or in equity. The acceptance of **Final Payment** shall constitute a waiver of all claims by the **Engineer** except those previously made in writing and identified by the **Engineer** as unsettled at the time of the **Final Request for Payment**.

ARTICLE 7. Work Authorization. After execution of this Agreement, the **Engineer** shall proceed with the work outlined under Article 2 hereof, only as authorized by the **Owner** through an agreed **Work Authorization** document in the form identified in **EXHIBIT "E"- Work Authorization Form**, attached hereto and made a part of this Agreement. The **Engineer** will identify, as approved by the **Owner**, the needed services for the "**Project**", as required through the course of the development to the "**Project**". The **Owner** shall authorize the **Engineer** to perform one or more of the agreed tasks identified in **EXHIBIT "B"**, attached hereto, in the form of individual work authorizations. Upon

authorization from the **Owner**, the **Engineer** will prepare a **Work Authorization** document, which will include a description of the work to be performed, including a description of the tasks and milestones, a work schedule, and an estimated cost proposal agreed upon by the **Owner** and the **Engineer**. The estimated cost proposal shall set forth in detail the computation of the cost of each work task, at the hourly rates established and identified in **EXHIBIT "D"**, attached hereto. The **Work Authorizations** shall not waive the **Owner's** and the **Engineer's** responsibilities and obligations established in this Agreement.

The estimated cost proposal for each **Work Authorization**, developed by the **Engineer** and approved by the **Owner** shall be used by the **Owner** to appropriate a purchase order for the **Work Authorization**. Each executed **Work Authorization** shall become a part of this **Agreement**. Upon satisfactory completion of the **Work Authorization**, the **Engineer** shall submit the "**Project**"'s deliverables as specified in the executed **Work Authorization** to the **Owner** for review and acceptance.

Work included in a **Work Authorization** shall not begin until the **Owner** and the **Engineer** have signed the **Work Authorization**. All work must be completed on or before the completion date specified in the **Work Authorization**, unless extended by written agreement by the **Engineer** and the **Owner**. The **Engineer** shall promptly notify the **Owner** of any event that will affect completion of the **Work Authorization**. All **Work Authorizations** must be executed and completed by both the **Engineer** and the **Owner** within the period established for this Agreement as specified in Article 3 hereof.

The final acceptance by the **Owner** of each **Work Authorization** for the "**Project**" shall serve as evidence of completion, on the part of the **Engineer**, of all services under this Agreement insofar as they pertain to that portion of work on the "**Project**" identified in the applicable work authorization.

ARTICLE 8. Supplemental Agreements. The terms of this Agreement may be amended by supplemental agreement if the **Owner** determines that (1) there is a need to extend the **Termination Date** identified in Article 3.1 hereof, (2) there has been a significant change in the scope, complexity or character of the services to be performed by the **Engineer**, and/or (3) for any other reason agreeable to the **Owner** and the **Engineer**. All supplemental agreements will be developed in the form identified in **EXHIBIT "F" - Supplemental Agreement Form**, attached hereto and made a part of this Agreement, and incorporated herein by reference as "**Supplemental Agreement**".

If determined appropriate by the **Owner**, additional compensation to the **Engineer** for (1), (2) and/or (3) above shall be paid as a negotiated lump sum fee at the **Contract Rates** specified in **EXHIBIT "D"**, attached hereto. The negotiated lump sum fee shall be incorporated into the **Supplemental Agreement**.

Any **Supplemental Agreement** must be executed by both the **Engineer** and the **Owner** prior to the **Termination Date** specified in Article 3 hereof.

It is distinctly understood and agreed that no claim by the **Engineer** for additional work, as identified in Article 9 hereof, or changes or revisions in work, as identified in Article 10 hereof, shall be made by the **Engineer** until full execution of the **Supplemental Agreement** and authorization to proceed is granted by the **Owner**. The **Owner** reserves the right to withhold payment to the **Engineer** pending verification of satisfactory work performed by the **Engineer**.

ARTICLE 9. Additional Work. If the **Engineer** is of the opinion that any work it has been directed to perform is beyond the scope of this Agreement and constitutes extra work, the **Engineer** shall promptly notify the **Owner** in writing. In the event the **Owner** finds that such work does constitute extra work, the **Owner** shall so advise the **Engineer** and a written supplemental agreement will be executed between the **Owner** and the **Engineer** as provided herein. The **Engineer** shall not perform

any proposed additional work or incur any additional cost prior to the execution by both the **Engineer** and the **Owner** of a supplemental agreement. Additional compensation from the **Owner** to the **Engineer** shall be paid as a negotiated lump sum fee at the Contract Rates specified in **EXHIBIT "D"** attached hereto. The negotiated lump sum fee shall be incorporated into the supplemental agreement as specified in Article 8 hereof. The **Owner** shall not be liable or under any obligation to compensate the **Engineer** for work performed or costs incurred by the **Engineer** relating to additional work not directly associated with the performance of the work authorized in this Agreement or as amended through supplemental agreement.

ARTICLE 10. Changes or Revisions in Work. If the **Owner** finds it necessary to request changes to the work, and the changes are within the applications of sound **Engineering** principles, the **Engineer** shall make such revisions if requested and directed by the **Owner**.

10.1 Preliminary Work. The **Engineer** will make, without expense to the **Owner**, such revisions of any preliminary reports or drawings as may be required to meet the needs of the **Owner** and the applications of sound **Engineering** principles.

10.2 Previously Approved or Satisfactorily Completed Work. If the **Owner** funds it necessary to request the **Engineer** to make changes to work previously approved by the **Owner** or work satisfactorily completed for which the **Owner** approves or, after a definite plan has been approved by the **Owner**, if a decision is subsequently made by the **Owner**, which for proper execution involves extra services and expenses for changes in or additions to the drawings specifications or other documents, this will be considered as additional work, and compensation from the **Owner** to the **Engineer** will be in accordance with Article 9 hereof.

10.3 "Project" Delays. If the **Engineer** is required to perform additional work due to delays by the imposition of causes not within the **Engineer's** control, such as by the re-advertisement of bids or

by the delinquency or insolvency of contractors, such work associated with these delays shall be considered additional work, and the **Engineer** shall be compensated by the **Owner** for such extra services and expense in accordance with Article 9 hereof.

10.4 Reduction of "Project" Cost. Notwithstanding any provision herein to the contrary, in the event it is necessary for the **Owner** to require changes in the final plan of the "**Project**" to enable it to reduce the construction cost of the "**Project**" to an amount within the sum estimated by the **Engineer**, the **Engineer** will be required to make such revisions or changes. These changes will only be considered additional work by the **Engineer**, if the **Engineer** previously provided these same changes as options to the **Owner** at the stage of preliminary work or prior to the approval of the final plan for the "**Project**", and the option or options were not selected or approved by the **Owner** to be incorporated into the final plan of the "**Project**". Payment for this additional work will then be made to the **Engineer** in accordance with Article 9 hereof. If the **Engineer** failed to provide these changes as an option or options to the **Owner** at the stage of preliminary work or prior to the approval of the final plan of the "**Project**", these changes will not be considered additional work and no additional compensation will be made to the **Engineer**.

ARTICLE 11. Ownership and Release of Documents.

11.1 Ownership of Documents. Original drawings and specifications are the property of the **Engineer** however the "**Project**" is the property of the **Owner**, and the **Engineer** may not use the drawings and specifications thereof for any purpose not relating to the "**Project**" with the **Owner's** consent. The **Owner** shall be furnished with such reproductions of drawings and specifications as the **Owner** may reasonably require. Upon completion of the work or any earlier termination of this Agreement under Article 3.4 hereof, the **Engineer** will revise drawings to reflect changes made during construction and will promptly furnish the **Owner** with one complete set of reproducible record prints.

Prints shall be furnished by the **Engineer**, as an additional service, at any other time requested by **Owner**. All such reproductions shall be the property of the **Owner** who may use them without the **Engineer's** permission for any proper purpose relating to the "**Project**", including but not limited to additions to or completion of the "**Project**". Any additions or revisions by the **Owner** to a drawing signed, sealed, and dated by a registered professional **Engineer**, shall be made in accordance with the Texas **Engineering** practice Act and the Rules of the State Board of Registration for Professional **Engineers**.

All documents furnished to the **Engineer** by the **Owner** shall be delivered to the **Owner** upon completion or termination of this Agreement. The **Engineer**, at the **Engineer's** own expense, may retain copies of such documents or any other data under this Agreement.

11.2 Release of Documents or Information. Release of information to the public or others regarding the "**Project**" will be accordance with the Texas Public Information Act.

ARTICLE 12 Discounts, Rebates, Refunds. In connection with procurement services rendered by the **Engineer**, if procurement services are required of the **Engineer** hereunder, all discounts, rebates and refunds shall accrue to the **Owner**. For some purchases, the **Engineer** may deem that payment within the discount period is not safe; and/or inspection, guarantees, or other considerations may dictate delay. In such cases, the **Engineer** shall promptly notify the **Owner** so that a course of action may be mutually agreed upon by the **Owner** and the **Engineer**.

ARTICLE 13. Records, Accounting, Inspection. The **Engineer** shall keep full and detailed records and accounts in a manner approved by the **Owner**. The **Engineer** shall afford the **Owner's** authorized personnel and independent auditors, if any, full access to the work performed by the **Engineer** regarding the "**Project**" and to all of the **Engineer's** books, records, correspondence, instructions, drawings, receipts, vouchers and other documents relating to such work under this

Agreement and the **Engineer** shall preserve all such records for three (3) years after final payment. The **Engineer** shall deliver to the **Owner** upon completion of such work, a statement of the cost of such work detailed according to the accounting procedure and requirements of the **Owner**.

ARTICLE 14. Subcontracting and Assignment. The **Engineer** shall not assign, subcontract or transfer the **Engineer's** interest in this Agreement without the prior written consent of the **Owner**. The **Engineer** shall bind every subconsultant by written subcontract to observe all the terms of this Agreement to the extent that they may be applicable to each subconsultant. No subcontract relieves the **Engineer** of any responsibilities under this Agreement.

The **Engineer**, and the **Owner**, do hereby bind themselves, their successors, executors, administrators and assigns to each other party of this Agreement and to the successors, executors, administrators, and assigns of such other party in respect to all covenants of this contract.

ARTICLE 15. Patents. The **Engineer** shall indemnify and save the **Owner** harmless from all liability for alleged or actual infringement of any patent resulting from the use of apparatus or equipment furnished or designed by the **Engineer** or from the use of any process designed by the **Engineer** or effected by said apparatus or equipment, and the **Engineer** shall indemnify and save the **Owner** harmless from and against all costs, legal fees, expenses and liabilities incurred in or about any claim of or action for such infringement: provided, however, that the **Owner** shall promptly transmit to the **Engineer** all papers served on the **Owner** in any suit involving such claim of infringement, and provided further, that the **Owner** permits the **Engineer** to have entire charge and control of the defense of any such suit. If because of actual infringement the use of such apparatus, equipment, or process is enjoined, the **Engineer** shall refund the purchase price thereof in proportion to the length of service uncompleted, the life of such apparatus or equipment being assumed as five years. The **Engineer** hereby grants to the **Owner** a non-exclusive, royalty-free license under patents now or hereafter owned by the

Engineer covering any machines, apparatus, processes, articles, or products included in the **Engineer's** work hereunder.

ARTICLE 16. Confidential Information, Inventions and Other Restrictions.

16.1 Confidential Information. The **Engineer** shall not use in any way, commercial or otherwise, except to the extent required by the proper performance of this Agreement; and shall hold in confidence and not disclose to any person, for any reason or at any time, any information relating to the secret processes, products, compositions, machinery, apparatus or trade secrets of the **Owner**, or any other confidential information given to the **Engineer** by any of the **Owner's** commissioners, elected officials, employees, or representatives or acquired by the **Engineer** during the term of or as a result of this Agreement. Any information not generally available to the public shall be considered secret and confidential for the foregoing purposes; provided, however, that any technical information which was lawfully in the **Engineer's** possession prior to such disclosure to the **Engineer** by the **Owner** or which is or shall lawfully be published or become part of general knowledge from sources other than the **Engineer** or which otherwise shall lawfully become available to the **Engineer** from a source other than the **Owner**, shall not be subject to these provisions. All the foregoing stipulations shall apply to such information and work hereunder as well as to any information and ideas originated or developed by the **Engineer** in performing such work. Such information may, of course, be disclosed to the proper officials or employees of the **Owner** if necessary to perform the work hereunder. The **Engineer** shall, however, inform each of its employees who receive such information of these restrictions and the **Engineer** shall take all reasonable precautions and exert all reasonable efforts to assure conformance with such restrictions by all of its officers, employees, and agents, obtaining from them if necessary, agreements satisfactory to the **Owner**, effectuating the purposes of this Article.

16.2 Inventions. The **Engineer** shall communicate to the **Owner** at once, and require the **Engineer's** employees assigned to this "**Project**" to communicate to the **Owner** all inventions and improvements which any of the **Engineer's** employees, either alone or in conjunction with any of the **Owner's** employees may conceive, make or discover during the course of or as a result of work on this "**Project**" under this or any ensuing agreement with the **Owner** that relates to the processes, products, compositions, machinery or plants of the **Owner**, or relating in any way to any of the operations in which the **Owner** may be obligated to pay to the **Engineer** as compensation for services rendered by the **Engineer** under contract with the **Owner**. The **Engineer** shall require its employees to execute patent applications and assignments thereof to the **Owner** or its nominees, and powers of attorney relating thereto for any country the **Owner** may designate, and shall take all other actions as the **Owner** may request to maintain and protect such inventions and improvements. The **Owner** shall pay all costs or charges incurred in protecting such inventions and improvements if the **Owner** desires to protect them. Before assigning any of the **Engineer's** employees to work under any contract with the **Owner** concerning this "**Project**", the **Engineer** shall obtain from them agreements satisfactory to **Owner** complying in all respects with the terms and provisions of this Article.

16.3 The rights and obligations set forth in Article 16 shall survive the performance of this Agreement, or any termination, discharge or cancellation thereof

ARTICLE 17. Engineer's Seal, Responsibility and Warranties.

17.1 Engineer's Seal. The **Engineer** shall assign a responsible **Engineer** or **Engineers** licensed to practice in the State of Texas, who shall sign, seal and date all appropriate **Engineering** submissions to the **Owner** in accordance with the Texas **Engineering** Practice Act and the Rules of the State Board of Registration for Professional **Engineers**.

17.2 Engineer's Responsibility. The **Engineer** shall be responsible for the accuracy of the work for the "**Project**" and shall promptly make necessary revisions or corrections resulting from errors, omissions, or negligent acts by the **Engineer**. No additional compensation will be made to the **Engineer** for any necessary revisions or corrections resulting from errors, omissions, or negligent acts by the **Engineer**.

The **Engineer's** responsibility for all questions arising from design errors and/or omissions will be determined by the **Owner** or a designee appointed by the **Owner**. The **Engineer** will not be relieved of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities until after the construction phase of the "**Project**" has been completed.

17.3 Warranties.

(a) The **Engineer** warrants that **Engineering** design work performed by the **Engineer** hereunder shall be in accordance with sound **Engineering** design practices and in conformance with applicable code and standards established for such work.

(b) Notwithstanding anything to the contrary contained in this Agreement, the **Owner** and the **Engineer** agree and acknowledge that the **Owner** is entering into this Agreement in reliance on the **Engineer's** experience and abilities with respect to performing the **Engineer's** services hereunder. The **Engineer** accepts the relationship of trust and confidence established between it and the **Owner** by this Agreement. The **Engineer** covenants with the **Owner** to use the **Engineer's** best efforts, skill, judgment and abilities to design the "**Project**" and to further the interests of the **Owner** in accordance with the **Owner's** requirements and procedures, in accordance with all professional standards, and in compliance with all applicable national, federal, state, county and municipal laws, regulations, codes, ordinances, orders and with those of any other body having jurisdiction. If the development of plans, specifications and estimates (hereinafter referred to as "**PS&E**") are identified in this Agreement under

Article 2 hereof or **EXHIBIT "B"**, attached hereto, as part of the services to be provided by the **Engineer** for the "**Project**", prior to the commencement of construction, the **Engineer** shall certify in writing to the **Owner** that the **PS&E** for the "**Project**", and the improvements when built in accordance therewith, conform to all applicable governmental regulations, statutes and ordinances then in effect. The **Engineer** represents covenants and agrees that there are no obligations, commitments or impediments of any kind that will limit or prevent performance of the **Engineer's** services.

(c) The **Engineer** represents, covenants and agrees that all of **Engineer's** services to be furnished by the **Engineer** under or pursuant to this Agreement from the inception of the Agreement until the "**Project**" has been fully completed, shall be of the standard and quality which prevail among **Engineers** of similar experience, knowledge, skill and ability engaged in **Engineering** practice throughout Texas under the same or similar circumstances involving the design and construction of "**Project**".

(d) The **Engineer** represents, covenants and agrees that the **Engineer's** special talent, training and experience cause the **Engineer** to be the prime professional on the "**Project**"; that because of such talent and training, the **Engineer** envisions the construction of the "**Project**" in its entirety and possesses the special skills which enable the **Engineer** to recognize dangerous conditions that a reasonable, prudent **Engineer** having such special skills could anticipate may arise from the proper use of the "**Project**" after acceptance by **Owner**; and that the **Engineer** recognizes that any commissioners, elected officials, employees and agents of the **Owner**, plus residents and **Owners** of property within the area affected by the "**Project**" are within a class of foreseeable persons who will be relying on the "**Project**" being designed in a professional and safe manner.

(e) If the development of **PS&E** is identified in this Agreement under Article 2 hereof or **EXHIBIT "B"**, attached hereto, as part of the services to be provided by the **Engineer** for the

“Project”, the **Engineer** represents, covenants and agrees that the **PS&E** of the **“Project”** will be accurate and free from any material errors. The **Engineer** additionally represents, covenants and agrees to the following: that the design of the **“Project”** will conform to its foreseeable use as a **“Project”** with all the amenities as set forth in any **PS&E** developed by the **Engineer** for the **“Project”**; that the result of such **PS&E**, if built in accordance therewith, will be suitable for purposes for which the **“Project”** is designed; and the **“Project”** will be inspected in a workmanlike, professional manner and will be suitable for the **“Project”**’s intended purpose. The **Engineer**’s responsibilities as set forth herein shall at no time be in any way diminished by reason of any approval by the **Owner** of any **PS&E** developed by the **Engineer** for the **“Project”**, nor shall the **Engineer** be released from any liability by reason of such approval by the **Owner**, it being understood that the **Owner** at all times is ultimately relying upon the **Engineer**’s skill and knowledge in preparing such **PS&E**.

(f) In connection with the **Engineer**’s performance of procurement services hereunder, if any, the **Engineer** use its best efforts to obtain from all vendors of equipment and materials, fullest possible warranties against defective materials and workmanship for the benefit of the **Owner**.

ARTICLE 18. Engineer’s Resources. The **Engineer** shall furnish and maintain, at the **Engineer**’s own expense, office space for the performance of all services, skilled and sufficient personnel, as well as adequate and sufficient equipment to perform the services as required under this Agreement.

18.1 “Project” Manager. The **Engineer** shall provide a manager (**“Project” Manager**) for the **“Project”** that is a registered professional **Engineer** in the State of Texas. The **“Project”** manager shall have such knowledge and experience as will enable that **“Project” Manager** during the course of the **“Project”** without prior consent of the **Owner**. If, due to situations beyond the control of the **Engineer**, the **Engineer** must change the **“Project” Manager** prior to the completion and acceptance of

the “**Project**”, the **Engineer** will submit a request to change the “**Project**” **Manager** to the **Owner** for approval.

18.2 Employees of the Engineer. All employees of the **Engineer** shall have such knowledge and experience as will enable them to perform the duties assigned to them and required for the services under this Agreement. Any employee of the **Engineer** who, in the opinion of the **Owner**, is incompetent, or whose conduct becomes detrimental to the work required under this Agreement, shall immediately be removed from association with the “**Project**” when so instructed by the **Owner**. The **Engineer** certifies that the **Engineer** presently has employed sufficient and qualified personnel, and will maintain sufficient and qualified personnel for performance of the services under this Agreement.

18.3 Documents/Information Exchange The purpose of this Article is to define the required automated resources, format for graphics files, and information exchange pertaining to the “**Project**”. Taking into consideration that the **Owner** has a significant investment in the development of the “**Project**”, there is a need for the **Engineer** to provide consistency in document development for information exchange. Consistency in document development for information exchange and production will help facilitate an economically efficient “**Project**”. Therefore, the **Engineer** shall provide the **Owner** with documents and information in accordance with the special requirement outlined in **EXHIBIT “B”** attached hereto.

ARTICLE 19. Indemnification. To the fullest extent permitted by applicable law, the **Engineer** and its agents, partners, subcontractors, and consultants (collectively “**Indemnitors**”) shall and do agree to indemnify, and hold harmless the **Owner**, the **Owner’s** respective directors, elected officials, employees and agents (collectively “**Indemnitees**”) from and against all claims, damages, losses, liens, causes of action, suits, judgments and expenses, including attorney fees, of any nature, kind or description (collectively “**Liabilities**”) of any person or entity whomsoever arising out of, caused by

or resulting from the negligent performance of the **Engineer's** services through activities of the **Engineer**, its agents, partners, subcontractors and/or consultants performed under this Agreement, and which are caused by or result from error, omission, or negligent act of the **Engineer** or of any person employed or contracted by the **Engineer** provided that any such **Liabilities** (1) are attributable to bodily injury, personal injury, sickness, disease or death of any person, or to the injury to or destruction of tangible personal property including the loss of use and consequential damages resulting there from and (2) are caused in whole or in part by any negligent act or omission of the **Engineer**, anyone directly or indirectly employed by the **Engineer** or anyone for whose acts the **Engineer** may be legally liable. The **Engineer** shall also save harmless the **Owner** from any and all expense, including but not limited to, attorney fees which may be incurred by the **Owner** in litigation or otherwise resisting said claim or liabilities which may be imposed on the **Owner** as a result of such activities by the **Engineer**, its agents partners, subcontractors and/or consultants. In this connection, it is agreed and understood that the **Engineer** shall not be responsible for any portion of the liability proximately caused by the **Owner's** negligence.

ARTICLE 20. Joint and Several Liability. In the event more than one of the **Indemnitors** are connected with an accident or occurrence covered by the indemnification in Article 19 hereof, then each of such **Indemnitors** shall be jointly and severally responsible to the **Indemnitees** for indemnification and the ultimate responsibility among such **Indemnitors** for the loss and expense of any such indemnification shall be settled by separate proceedings and without jeopardy to any **Indemnitee**. The provisions of this Article shall not be construed to eliminate or reduce any other indemnification or right which the **Owner** or any of the **Indemnitees** has by law.

ARTICLE 21. Insurance. The **Engineer** shall obtain and maintain insurance in the limits of liability for each of the types of insurance coverage identified as follows.

- (1) **Workers' Compensation**, endorsed with a waiver of subrogation in favor of the **Owner** in accordance with the statutory obligations imposed by Worker's Compensation or Occupational Disease laws under the Texas Workers' Compensation Law ("**Statutory Texas**")
- (2) **Commercial General Liability**, endorsed with the **Owner** as an additional insured and endorsed with a waiver of subrogation in favor of the **Owner** *all to the extent of the liabilities assumed by the Engineer under Article 19 and Article 20* herein, in limits of liability not less than one million dollars (**\$1,000,000**) combined single limit each occurrence and in the aggregate for bodily injury and property damage.
- (3) **Texas Business Automobile Policy**, endorsed with the **Owner** as an additional insured and endorsed with a waiver of subrogation in favor of the **Owner** *all to the extent of the liabilities assumed by the Engineer under Article 19 and Article 20 herein*, in limits of liability not less than two hundred fifty thousand dollars (**\$250,000**) each person for bodily injury, five hundred thousand dollars (**\$500,000**) each occurrence for bodily injury, and one hundred thousand dollars (**\$100,000**) each occurrence for property damage.
- (4) **Professional Liability** in limits of **\$1,000,000** each claim and aggregate.

The **Engineer** covenants and agrees to maintain an insurance policy in the minimum limits of liability for each of the types of insurance coverage identified above. The **Engineer** shall furnish the **Owner** with a certificate of insurance showing the said policy to be in full force and effect during the period of service, identified in Article 3 hereto, for this Agreement. The Certificate of Insurance shall be attached hereto and identified as **EXHIBIT "G"- Certificate of Insurance**. The **Engineer** will be considered in breach of contract should the **Engineer** fail to maintain an insurance policy in the

minimum limits of liability and requirements identified above while performing services for and under this Agreement, and will be subject to default and termination of the Agreement as outlined in Article 3.4 hereto. Additionally, the **Engineer** covenants and agrees to use its best efforts to maintain an insurance policy in the minimum limits of liability and requirements identified above until one year following the date of the acceptance of the “**Project**” by **Owner**.

ARTICLE 22. Compliance with Laws. The **Engineer** shall comply with all applicable Federal, State and local laws, statutes, codes, ordinances, rules and regulations and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Agreement including, without limitation, worker’s compensation laws, minimum and maximum salary and wage statutes and regulations and licensing laws and regulations. When required the **Engineer** shall furnish the **Owner** with satisfactory proof of its compliance therewith.

ARTICLE 23. Non-collusion. The **Engineer** warrants that the **Engineer** has not employed or retained any company or persons, other than a bona fide employee working solely for the **Engineer**, to solicit or secure this Agreement, and that the **Engineer** has not paid or agreed to pay any company, **Engineer** or any other person or entity any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award or execution of this Agreement. For breach or violation of this warranty the **Owner** shall have the right to annul this Agreement without liability or, in the **Owner’s** discretion, to deduct from the *Services Fee*, or otherwise recover, the full amount of each fee, commission, percentage, brokerage fee, gift or contingent fee.

ARTICLE 24. Gratuities. The **Owner** mandates that employees of the **Owner** shall not accept any benefits, gifts or favors from any person doing business or who reasonably speaking may do business with the **Owner** under this Agreement; the only exceptions allowed are ordinary business meals. Any person doing business with or who may reasonably seeking to do business with the **Owner**

under this Agreement may not make any offer of benefits, gifts or favors to **Owner** employees, except as mentioned herein above. Failure on the part of the **Engineer** to adhere to this provision may result in the termination of this Agreement.

ARTICLE 25. Payment of Franchise Tax. The **Engineer** hereby certifies that the **Engineer** is not delinquent in Texas franchise tax payments, or that the **Engineer** is exempt from, or not subject to, such as tax. A false statement concerning corporation's franchise tax status shall constitute grounds for termination of the Agreement at the sole option of the **Owner**.

ARTICLE 26. Disputes. The **Engineer** shall be responsible for the settlement of all contractual and administrative issues arising out of any procurement made by the **Engineer** in support of the services under this Agreement.

ARTICLE 27. Severability. In the event any one or more of the provisions contained in this Agreement shall for any reason, be held to be invalid, illegal, or unenforceable in any respect such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein .

ARTICLE 28. Notices. All notices to either party by the other required under this Agreement shall be personally delivered or mailed to such party at the following respective addresses:

OWNER:	Hidalgo County Drainage District No. 1	ENGINEER:	L&G Engineering
	Attn: District Manager		Attn: Jacinto Garza
	902 N. Doolittle Rd		2100 W. Expressway 83
	Edinburg, TX 78542		Mercedes, Tx. 78570

The Address may be changed by either party by written notice and notice sol mailed shall be effective upon mailing.

ARTICLE 29. Miscellaneous Provisions.

(a) This Agreement constitutes the entire Agreement between the **Engineer** and the **Owner** relating to the work herein described and supersedes any prior understanding or written or oral

contracts between the parties respecting the subject matter defined herein. These are no previous or contemporary representations or warranties of the **Owner** or the **Engineer** not set forth herein.

(b) Except as specifically provided herein no modification, waiver, termination, rescission, discharge or cancellation of this Agreement or of any terms thereof shall be binding on the **Owner** unless in writing and executed by an officer or employee of the **Owner** specifically authorized to do so.

(c) No waiver of any provision of or a default under this Agreement shall affect the right of the **Owner** thereafter to enforce said provision or to exercise any right or remedy in the event of any other default whether or not similar.

(d) No modification, waiver, termination, discharge or cancellation of this Agreement or of any terms thereof shall impair the **Owner's** right with respect to any liabilities whether or not liquidated of the **Engineer** to the **Owner** theretofore accrued.

(e) All rights and remedies of the **Owner** specified in this Agreement are in addition to the **Owner's** other rights and remedies.

(f) The **Engineer** shall remain an independent contractor and shall have no power nor shall the **Engineer** represent that the **Engineer** has any power to bind the **Owner** or to assume or to create any obligation express or implied on behalf of the **Owner** except as specifically authorized in advance by the **Owner**.

(g) The Agreement shall be construed under the laws of the State of Texas and is performable in Hidalgo County, Texas.

(h) This Agreement may only be amended by a written document executed by the **Owner** and the **Engineer** as provided by Article 8 herein.

ARTICLE 30. Signatory Warranty The undersigned signatory or signatories for the **Engineer** hereby represent and warrant that the signatory is an officer of the organization for which he or she has executed this Agreement and that he or she has full and complete authority to enter into this Agreement on behalf of the **Engineer**. The above-stated representations and warranties are made for the purpose of inducing the **Owner** to enter into this Agreement.


WITNESS WHEREOF, the **Engineer** and the **Owner** have caused this **Agreement for Professional Engineering Services** to be effective as of the 9th day of April, 2013.


ENGINEER:

BY: 
Mr. Jacinto Garza, P.E.
President-L&G Engineering

OWNER:

HIDALGO COUNTY DRAINAGE DISTRICT NO. 1

BY: 
Ramon Garcia, Chairman of the Board
Hidalgo County Drainage District No. 1

APPROVED BY HIDALGO
COUNTY DRAINAGE DISTRICT
NO. 1 BOARD OF DIRECTORS
ON: 4/9/13 

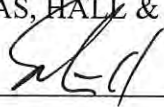
APPROVED AS TO FORM:
ATLAS, HALL & RODRIGUEZ, LLP
By: 

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**".

The **OWNER** will provide to the **ENGINEER** the following:

- (1) Authorization to the **ENGINEER** to begin work in accordance with Section 3 of this Agreement.
- (2) Payment for work performed by the **ENGINEER**, and accepted by the **OWNER** in accordance with Section 6 of the Agreement.
- (3) 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.
- (4) Provide any available relevant data the **OWNER** may have on file concerning the "**Project**".
- (5) Provide timely review and decisions in response to the **ENGINEER'S** request for information and/or required submittals and deliverables, in order for the **ENGINEER** to maintain the agreed-upon work schedule prepared in accordance with Attachment "___" of this Agreement.
- (6) Attend and participate in progress meetings as required and as coordinated and conducted by the **ENGINEER**.
- (7) Assist the **ENGINEER** in the preparation of the "**Project**" mailing list; provide representation, a site and stenographer for all public meetings; additionally:

Public Meetings

- (a) Approve agenda and all exhibits prior to public meeting;
 - (b) Approve date and location of the meeting; and
 - (c) Review/approve Public Meeting Report
- (8) Attend the Preliminary Concept Conference coordinated and conducted by the **ENGINEER** and more particularly identified in Attachment "___" of the Agreement.
 - (9) Review and approve the "**Project**" design criteria.
 - (10) Review and approve change orders as required and prepared by the **ENGINEER**.

Exhibit "B"
Services to be Provided by the Engineer

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(4) Subcontract Administration	4		
(5) Funding Sources	4	(D) Construction Mgt.	7
(6) Capital Improvement Program	5	(1) " <i>Construction Management Policy & Procedures Manual</i> "	7
(7) Management/Coordination of Engr. Activities	5	(2) Construction Bidding	7
(8) Implementation of QC/QA Program	5	(3) Owner's Representative	8
(B) Preliminary Engineering	5	(4) Defects and Deficiencies	8
(1) Preliminary Concept Conference	5	(5) Progress Reports	8
(2) Management/Coordination of Engr. Activities	5	(6) Contractor Payment	8
(3) Implementation of QC/QA Program	6	(7) Project Site Management	8
(4) Preparation of " <i>Preliminary Engineering Report</i> "	6	(8) Implementation of QC/QA Program	9
(5) Coordination with all Reviewing Agencies	6	(9) Change Orders	9
		(10) Final Acceptance	9
(C) Final Design	6		

II. PRELIMINARY PROJECT PLANNING & DEVELOPMENT

(1) Environmental Document Preparation & Public Involvement (if required by Federal Agencies)	10	(3) Water Resource Management Planning	11
(2) Field Surveying & Photogrammetry (if not provided by Owner)	11	(4) Water Rights Attorney	11

III. PRELIMINARY ENGINEERING, DESIGN AND CONSTRUCTION

(A) Preliminary Engineering	12	(B) Final Design	15
(1) Preliminary Field Surveying	12	(1) Right-of-Way Data	15
(2) Data Collection	12	(2) Design Field Surveying	16
(3) Geographical Information System	13	(3) Geotechnical Investigations	16
(4) Hydrologic Analysis	13	(4) Permitting	16
(5) Hydraulic Analysis	14	(5) Channel / Drainage Design	16
(6) Flood Plain Mapping	14	(6) Roadway Design	16
(7) Alternate Solutions & Recommendations	14	(7) Bridge Design	16
(8) Final Report – " Preliminary Engineering Report "	15	(8) Plans, Specifications, and Estimates (PS&E)	17
		(C) Construction	17
		(1) Construction Bidding Documents	17
		(2) Project Site Representation	18
		(3) Miscellaneous Technical Activities	18
		(4) Final Acceptance	19

CLASSIFICATION OF SERVICES. In accordance with Article 2.2 of this Agreement, the services to be provided by the Engineer shall be classified as either **Basic Services** or **Special Services**. The expanded descriptions of the services identified later in this exhibit and to be provided by the **Engineer** are classified as follows:

Management:

I. ENGINEERING MANAGEMENT (EM)

(A) Preliminary Project Planning and Development

- | | |
|---|----------------|
| (1) Project Development Schedule | Basic |
| (2) Construction Estimate | Basic |
| (3) Quality Control / Quality Assurance Program | Basic |
| (4) Subcontract Administration | Special |
| (5) Funding Liaison and Funding Application Preparation | Special |
| (6) Capital Improvement Program (CIP) | Special |
| (7) Management / Coordination of Engineering Activities | Special |
| (8) Implementation of QC/QA Program | Basic |

(B) Preliminary Engineering

- | | |
|--|----------------|
| (1) Preliminary Concept Conference | Basic |
| (2) Management / Coordination of Engineering Activities | Basic |
| (3) Implementation of QC/QA Program | Basic |
| (4) Preparation of " <i>Preliminary Engineering Report</i> " | Special |
| (5) Coordination with all reviewing agencies (FEMA, USACE, etc.) | Special |

(C) Final Design

- | | |
|---|----------------|
| (1) " <i>Design Policy & Procedures Manual</i> " | Special |
| (2) Design Concept Conference | Basic |
| (3) Management / Coordination of Engineering Activities | Basic |
| (4) Implementation of QC/QA Program | Basic |

(D) Construction Management

- | | |
|---|----------------|
| (1) " <i>Construction Management Policy & Procedures Manual</i> " | Special |
| (2) Construction Bidding | Basic |
| (3) Owner's Representative | Basic |
| (4) Defects and Deficiencies | Basic |
| (5) Monthly Construction Progress Reports | Basic |
| (6) Recommendations for Payment to the Construction Contractor | Basic |
| (7) Project Site Management | Special |
| (8) Implementation of QC/QA Program | Basic |
| (9) Change Orders | Special |
| (10) Final Acceptance, Performance Testing, Shop Drawing Review | Special |

Engineering:

II. PRELIMINARY PROJECT PLANNING & DEVELOPMENT

- | | |
|---|----------------|
| (1) Environmental Document Preparation & Public Involvement (if required By Federal agencies) | Special |
| (2) Field Surveying & Photogrammetry (if not provided by Owner) | Special |
| (3) Water Resource Management Planning | Special |
| (4) Water Rights Attorney | Special |

Engineering:

III. PRELIMINARY ENGINEERING, FINAL DESIGN & CONSTRUCTION

(A) Preliminary Engineering:

(1) Preliminary Field Surveying (using Lidar/ provided by Owner)	Provided by Owner
(2) Data Collection	Special
(3) Geographical Information System	Special
(4) Hydrologic Analysis	Special
(5) Hydraulic. Analysis	Special
(6) Flood Plain Mapping	Special
(7) Alternate Solutions /Recommendations for Final Design	Special
(8) Final Report — " <i>Preliminary Engineering Report</i> "	Special

(B) Final Design:

(1) Right-of-Way Data and ROW Map	Special
(2) Design Field Surveying	Special
(3) Geotechnical Investigations and Reports	Special
(4) Permitting	Basic
(5) Channel / Drainage Design	Basic
(6) Roadway Design	Basic
(7) Bridge Design	Basic
(8) Plans, Specifications & Estimates	Basic

(C) Construction:

(1) Construction Bidding Documents	Basic
(2) Project Site Representation:	Special
a. Engineering Support Data for Defects & Deficiencies	Special
b. Daily and Weekly Construction Reports	Special
c. Measurement / Calculations for Contractor Payment	Special
d.-Project-Engineer-Resident Engineer Services	Special
(3) Miscellaneous Technical Activities:	
a. Construction Field Surveying	Special
b. Shop Drawing Review	Basic
c, Control of Materials & Equipment	Special
d. Change Orders	Basic
(4) Final Acceptance:	
a. Performance Testing	Special
b. As-Built Drawings	Basic

EXPANDED DESCRIPTIONS OF SERVICES. The expanded descriptions of the services to be provided by the Engineer are described on the following pages.

I. ENGINEERING MANAGEMENT (EM)

The following outline provides a summary for the **basic** and **special services** to be provided by the Engineer under services of this Agreement. The contractual services will be outlined in each Work Authorization as outlined in Article 7.

For these services, the **Engineer** shall manage the **Project Team**, consisting of various sub-providers, in the development of the **Project** as defined and more particularly described in **EXHIBIT "B1"** attached to this Agreement. The services will include the following:

- (A) **Preliminary Project Planning and Development:** In general, this will include the *management* of the preliminary planning process and advance project development (APD) that is required for the **Project**. (A summary of specific requirements for *engineering* activities are outlined later in this exhibit.) The **Engineer** will identify, coordinate, and implement the *management* requirements for preliminary planning and advance Project development for the **Project**. Specific work activities to be provided by the **Engineer** will include:
- (1) **Project Development Schedule:** The **Engineer** will prepare a **Project Development Schedule**. This schedule will be developed from the notice to proceed with work through final record drawings. The schedule will be monitored, by the **Engineer**, throughout **Project** development. It will be provided, as well as any updates, to the Owner and each **Project Team** member as a part of the **Work Plan** identified in (1). The schedule will identify all major milestones and **Project** deliverables. The **Engineer** will inform the **Owner** (in reasonable advance of the delay) should the **Engineer** encounter delays that would prevent the performance of all work in accordance with the established schedule.
 - (2) **Construction Estimate:** The **Engineer** shall prepare a preliminary estimate for the construction of the **Project**. The preliminary construction estimate shall be monitored, verified and updated throughout the course of **Project** development.
 - (3) **Quality Control / Quality Assurance (QC/QA) Program:** The **Engineer** shall develop a quality control and quality assurance program for the **Project** to ensure the **Project Team** is producing quality work for the **Project**.
 - (4) **Subcontract Administration:** The **Engineer** shall initiate, execute and monitor all subcontracts for the duration of the **Project**. The **Engineer** shall advise and/or provide recommendations to the **Owner**, as the **Project** progresses, should additional sub-providers be required. All subcontracting and assignment will be in accordance with Article 14.
 - (5) **Funding Sources:** If approved by the **Owner** as *Special Services*, as outlined in Article 5.2, the development and construction of the **Project** may be eligible for funding from outside sources, If approved by the **Owner** as *Special Services*, the **Engineer's** responsibilities regarding funding sources will include the following:
 - A. **Liaison (Engineer)** will act as Corporate Sponsor for obtaining funding from potential funding sources for the **Project**. The Corporate Sponsor will act as liaison for the Owner to applicable State and Federal resource agencies for possible funding assistance.

I. Engineering Management (EM) (cont.)

B. The **Engineer** will identify and develop a list of possible funding sources for the **Project**.

C. The **Engineer** will prepare all required applications to funding sources.

- (6) **Capital Improvement Program (CIP):** If approved by the **Owner** as *Special Services*, as outlined in Article 5.2, the **Engineer** will prepare a CIP based on a conceptual sequence of construction for the **Project** as identified in the final recommendations shown in the "**Preliminary Engineering Report**" developed by the **Engineer** under the preliminary engineering activities identified later in this exhibit. The primary focus will be to address the overall needs of the system, the funding availability, the identification of operational issues, the acquisition of right of way, and Hidalgo County / L&G Engineering, and the prioritization of those needs and issues in a cost effective and efficient manner (conducive of funding availability). The CIP will be continuously monitored and updated by the **Engineer** throughout **Project** development.
 - (7) **Management/Coordination of Engineering Activities:** The **Engineer** shall *manage* and *coordinate* the specific *engineering* work activities, tasks, special services for Environmental Document Preparation (if required by Federal agencies), Public Involvement, and Field/Reconn/Surveying and Photogrammetry (more particularly identified later in this exhibit under II - Preliminary Project Planning and Development).
 - (8) **Implement QC/QA Program:** The **Engineer** will monitor and perform the program developed to ensure the quality of the Environmental Document (if required by Federal agencies), public involvement procedures, and the products and data from field/recon/surveying and aerial photogrammetry, and their compliance with applicable standards and requirements.
- (B) **Preliminary Engineering.** The **Engineer** will ultimately deliver the final recommendations for the design of the project in the "**Preliminary Engineering Report**". (Specific requirements for *engineering* activities are outlined later in this exhibit under II - Preliminary Engineering, Design and Construction.) The **Engineer** shall *manage* and *coordinate* the activities of the **Project Team** in the collection of geographical information and *engineering* data, the selection of computer software, and the distribution of Project information and status to the **Owner** and **Project Team** throughout the development of the "**Preliminary Engineering Report**". Specific *management* tasks to be provided by the **Engineer** will include:
- (1) **Preliminary Concept Conference:** The **Engineer** will coordinate and conduct a preliminary concept conference (PCC) with the **Owner**, and, any other, stakeholders approved by the Owner. At the PCC, the Engineer will outline the issues and aspects involved in the development of the "**Preliminary Engineering Report**", identify existing conditions and design requirements, and present the approach to the development of the report for approval by the **Owner**.
 - (2) **Management/Coordination of Engineering Activities:** The **Engineer** shall *manage* and *coordinate* the **Project Team** in the preparation of specific *engineering* work activities, tasks, special services for the final development of the "**Preliminary Engineering Report**", including Field Surveying, Data Collection, the development

I. Engineering Management (EM) (cont.)

of a Geographical Information System, Hydrologic/Hydraulic Analysis, Flood Plain Mapping, Alternate Solutions, and Final Recommendations (more particularly defined with the *engineering* activities identified in this exhibit under II - Preliminary Engineering, Design and Construction (Preliminary Engineering)).

- (3) **Implement QC/QA Program.** The **Engineer** will monitor and perform the QC/QA program developed to ensure the quality of the "**Preliminary Engineering Report**", and its compliance with standards of sound *engineering* principles and the agreed-upon design criteria established at the PCC.
 - (4) **Final Report: "**Preliminary Engineering Report**".** The **Engineer** will provide, to the **Owner**, five (5) bound, color copies of the "**Preliminary Engineering Report**", including all attachments, exhibits, preliminary layouts, sketches, profiles, and cost estimate.
 - (5) **Coordination with various agencies:** The development of the "**Preliminary Engineering Report**" may require documentation and/or coordination with various agencies. The **Engineer** will act as a liaison for the **Owner**, and will attend any meetings, and develop / prepare any required correspondence, documentation, and/or applications to satisfy the applicable Federal, State, and local regulations.
- (C) **Final Design.** After the **Owner** has approved the **Engineer's** final recommendations as shown in the "**Preliminary Engineering Report**" and the recommendations meet all Federal, State, and County permitting requirements, the **Engineer**, will coordinate the activities of the **Project Team** during the final design of the **Project** by developing and preparing all policies and procedures, managing the sub-providers activities and performance, and performing quality control and quality assurance for all design documents associated with the **Project**. One of the primary deliverables for the **Engineer** to provide the **Owner** is a complete and approved set of plans, specifications, and estimate (PS&E) for each phase of construction of the **Project**. Specific *management* work activities to be provided by the **Engineer** will include:
- (1) "**Design Policy & Procedures Manual**": The **Owner** will provide a policy and procedures manual for final design to be used by the **Project Team** in the development of the **Project**. The purpose of this will be to set policy with regards to the approved design criteria, and to provide consistency in the development of the documents for design, plans, specifications and estimates. Once the manual has been provided by the **Owner** it will be distributed by the **Engineer** to each member of the **Project Team**. The **Owner** will be responsible for updating and maintaining the manual and distributing any revisions throughout **Project** development. Items to be identified in the "**Design Policy & Procedures Manual**" provided by the **Owner** will include, but not be limited to, the following:
 - (a) Project Description and Final Recommendations of the "**Preliminary Engineering Report**"
 - (b) Environmental
 - (c) Correlation and Agreement with Other Agencies
 - (d) Application of Design Standards (City, County, State, AASHTO)
 - (e) Requirements for Preliminary Submittals
 - (f) Basic Design Criteria

I. Engineering Management (EM) (cont.)

- (g) Preparation for Plans, Specifications, and Estimate (PS&E) Submittals
- (h) Formats for Supporting Documents
- (i) CADD Standards
- (j) Specifications

(2) **Design Concept Conference (DCC):** The **Engineer** shall coordinate and conduct a design concept conference with the **Owner** and **Project Team**. At the DCC, the **Engineer** will distribute the "*Design Policy & Procedures Manual*" provided by **Owner** and discuss the **Project** Development Schedule with the **Project Team**.

(3) **Management/Coordination of Engineering Activities:** The **Engineer** shall *manage* and coordinate the **Project Team** in the development of the documents for final design, including: Right of Way Data, Design Field Surveying, Geotechnical Investigations, Permitting, Channel/Drainage Design, Roadway Design, Bridge Design, PS&E, and other miscellaneous design and plan preparation items (more particularly defined with the engineering activities identified in this exhibit under 11—Preliminary Engineering, Design and Construction (**Final Design**)).

(4) **Implement QC/QA Program:** The **Engineer** shall monitor and perform the QC/QA. Program developed to ensure the quality of the documents associated with Right of Way Data (Mapping), Design Field Surveying, Geotechnical Investigations, Permitting, Channel/Drainage Design, Roadway Design, Bridge Design, PS&E, and other miscellaneous design and plan preparation items (more particularly defined with the *engineering* activities identified in this exhibit under II — Preliminary Engineering, Design and Construction (Final Design Engineering)). These designs shall in all respects combine the application of sound *engineering* principles with a high degree of economy and shall be submitted to the applicable City, County, State, and/or Federal agencies for approval.

(D) **Construction Management:** The **Engineer** shall provide construction *management* services for each authorized construction contract of the **Project**. The **Engineer** shall also assist the **Owner** in the advertisement for construction bids, the opening and tabulation of the bids, provide a recommendation as to the proper action on all bid proposals received, and assist in the preparation of formal contract documents for the award of contracts. Specific *management* work activities to be provided by the Engineer will include:

(1) "**Construction Management Policy & Procedures Manual**": The **Owner** will provide a manual that outlines the policy and procedures for the *management* and administration of construction of the **Project**. The manual's information will include, but not be limited to, construction contract recordkeeping (daily reports, weekly reports, monthly progress reports, etc.), contractor payment, change order format and procedures, site inspection, scheduling, and final inspection.

(2) **Construction Bidding Documents:** The **Engineer** shall perform the following in preparation of the construction bidding documents: -

(a) Upon completion of QC/QA, the Engineer shall furnish to the **Owner** all necessary copies of approved plans, specifications, **Engineer's** estimate, notices to bidders, and proposals for each authorized construction contract.

I. Engineering Management (EM) (cont.)

- (b) The **Engineer** shall assist the **Owner** in advertising for each authorized construction contract for the **Project**.
 - (c) The **Engineer** shall assist the **Owner** in the opening and tabulation of bids for each authorized construction for the Project, and recommend to the **Owner** as to the proper action on all bid proposals received.
 - (d) The **Engineer** shall assist the **Owner** in the preparation of formal contract documents for the award of construction contracts.
- (3) **Owner's Representative:** In general, the Engineer shall provide the *management* activities required for consultation and advisement to the **Owner** during construction, and act as the **Owner's** representative as provided in the General Conditions of the Construction Contract. The extent and limitations of the duties, responsibilities and the authority of the **Engineer** as assigned in the General Conditions of the Contract shall not be modified, except as the **Engineer** may otherwise agree in writing.
- (4) **Defects and Deficiencies.** In providing the *management and administration* of the authorized construction contract, the **Engineer** shall use the **Engineer's** best efforts to protect the **Owner** against defects and deficiencies in the work of the construction contractor, hereinafter called the "**Contractor**". The **Engineer** does not guarantee the performance of the **Contractor**; however, the **Engineer** will promptly notify the **Owner** of any such defect or deficiency, and take all steps possible to require the **Contractor** to correct the defect.
- (5) **Progress Reports:** The **Engineer** will obtain the daily and weekly reports provided from the *engineering* activities identified under II - Preliminary Engineering, Design, and Construction (**Construction**) in this exhibit and prepare a monthly progress report, which outlines the construction progress in a form and manner satisfactory to the Owner.
- (6) **Contractor Payment:** The **Engineer** shall obtain the measurements and calculated quantities prepared under the *engineering* activities identified under II - Preliminary Engineering, Design, and Construction (**Construction**) in this exhibit, and review and approve the monthly and final estimates for payments to the **Contractor** for those items of work accepted and conforming to the construction contract specifications. The **Engineer** will furnish to the **Owner** any necessary certifications as to payments to the **Contractor** and suppliers. *Note: The Engineer is not responsible for actual payments to the Contractor.*
- (7) **Project Site Management:** The **Engineer** will coordinate and monitor the **Project** site representation of the authorized construction contract by providing the following special services, if authorized by **Owner**:
- Project Manager.* The **Engineer** will provide visits by the *Project Manager* or a competent representative of the **Engineer** to the site of construction at least twice a month for the purpose of monitoring the **Contractor's** progress and conformance to the construction contract plans and specifications. In the capacity of site inspection, the **Engineer** will issue instructions from the **Owner** to the **Contractor** and the *Resident Engineering Representative*, issuing necessary interpretations and clarifications of

I. Engineering Management (EM) (cont.)

construction contract documents, and make recommendations to the Owner as to the acceptability of the **Contractor's** progress and work.

- (8) **Implement QC/QA Program:** The **Engineer** will monitor and perform the QC/QA program developed to ensure the quality of the *engineering* services and documents associated with Field Surveying, Shop Drawings, Control of Materials & Equipment, Change Orders, Performance Testing, and As-Built Drawings, more particularly identified under II - Preliminary Engineering, Design, and Construction (**Construction**) in this exhibit. These services shall in all respects combine the application of sound *engineering* principles with a high degree of economy and shall be submitted to the applicable City, County, State, Federal agencies for approval.
- (9) **Change Orders:** When applicable, the **Engineer** will review and provide recommendations for all change orders developed under Ti - Preliminary Engineering, Design, and Construction (**Construction**) in this exhibit for purpose of preparing construction contract change orders. These change orders may be required due to actual field conditions encountered or new requirements directed by the **Owner**. The **Engineer** will prepare, explain, and submit proposed change orders, when applicable.
- (10) **Final Acceptance:** Following the completion of construction by the **Contractor**, the **Engineer** will provide the services required for the final inspection and recommendation for **Project** acceptance. This will include coordinating the activities required for the inspection for conformance and recordkeeping of the necessary performance tests required by the construction contract specifications. The **Engineer** will also review and approve all as-built drawings (to show the work as actually constructed), and furnish to the **Owner** one set of prints of the as-built drawings.

Note: Services to be provided by the **Engineer** for Items II and III primarily involve the engineering work tasks for the Project.

II. PRELIMINARY PROJECT PLANNING & DEVELOPMENT

In general, this will include all *engineering* activities required for the **Advance Project Development**. Primarily, this will involve the research and coordination for the social, economic and environmental impacts, public involvement and preliminary field/reconn/surveying / aerial photography of the **Project**. A summary of the *engineering* activities to be provided by the **Engineer** are listed below. The actual contractual services will be identified in each work authorization as outlined in Article 7.

(1) **Environmental Document Preparation and Public Involvement** *(if required by Federal/State agencies)*

- (a) The **Engineer** shall 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:
- (i) **Project** description
 - (ii) Need for **project**
 - (iii) Alternatives considered
 - (iv) Impacts (socioeconomic, cultural resource, water resource, air quality, noise quality, biological, prime/unique farmland, construction impacts, hazardous materials)
 - (v) Conclusion
 - (vi) **Project** location map
 - (vii) Preliminary structure and channel locations/layouts
 - (viii) Scanned photographs
- (b) 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.
- (c) 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.
- (d) The **Engineer** shall coordinate and conduct the following public meetings/hearings:
- (i) Public Meetings — These meetings will be scheduled to present the **Project** concept, including preliminary layouts and requirements for the **Project**, for the purpose of obtaining preliminary public comment.
 - (ii) 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 afforded and/or conducted to present the approved draft environmental document and the **Project** layout (schematic) for the purpose of obtaining final public comment.
- (e) The **Engineer** shall develop a **Project** coordination and mailing list.

II. Preliminary Project Planning & Development (cont.)

- (f) The **Engineer** shall prepare required presentation materials (including handouts, agenda, and sign-in roster) and exhibits for public meetings and a public hearing.
- (g) The **Engineer** shall prepare and submit a written document summarizing each proceeding: Public Meeting Reports and Public Hearing Report.

(2) **Field Surveying and Photogrammetry (if not provided by Owner)**

- (a) **Right of Entry:** It will be the responsibility of the **Engineer** to secure written permission to enter private property for purposes of recon/survey, environmental and engineering investigations. The **Engineer** will, at times, contact the owner prior to any entry onto the owner's property. The property owner will be informed, by the **Engineer**, the name of the primary person of contact during each entry.
- (b) For the purpose of schematic development, including a geographical information system of the **Project**, a base map background will be provided to the **Engineer** through the **Owner**.
- (c) The **Owner** shall provide primary **Project** control for field surveying by establishing horizontal and vertical control points, and the **Engineer** shall establish secondary **Project** control to tie ground control to the State Plane Coordinate System.
- (d) The **Engineer** shall obtain the following photogrammetric products:
 - (i) Contact Prints and Mosaics
 - (ii) Planimetric maps
 - (iii) Contour maps
 - (iv) Cross Sections
 - (v) Digital Terrain Model (DTM)

(3) **Water Resource Management Planning**

The Engineer shall provide water resources management planning to include identification of development opportunities, formulating alternative plans, evaluation and optimization of plans. Multiple users, multiple purposes, and multiple objectives must be considered in defining the development plans.

The Engineer shall provide Public Involvement that will be a critical role in the planning process. Economic, ecological, environmental, and social impacts of each alternative plan will be considered. An important and quantifiable criterion for plan evaluation is the economic benefits and costs a plan would entail were it implemented. The overall planning process will be based on a systematic planning approach.

(4) **Water Rights Attorney**

The Engineer shall provide and retain the services of an attorney registered with the State Bar of Texas with professional experience in Texas Law of Water Rights. The attorney retained will provide consultation on applicable State Law regarding water rights and other services as required by Hidalgo County Drainage District No. 1.

III. PRELIMINARY ENGINEERING, DESIGN & CONSTRUCTION

The services listed below to be provided by the **Engineer** are a summary of the services; the actual contractual services will be identified in each work authorization as outlined in Article 7 of the Agreement. The services shall be divided into three phases with *engineering* work activities, as follows:

- (A) **Preliminary Engineering:** For this phase, the **Engineer** will ultimately deliver the "**Preliminary Engineering Report**". The **Engineer** will prepare the "**Preliminary Engineering Report**" in sufficient detail to indicate clearly the problems involved and the alternate solutions available to the **Owner**; to include preliminary layouts, sketches, and cost estimates for the **Project**, and to set forth clearly the **Engineer's** recommendations. Specific *engineering* work activities, tasks, and/or special services to be provided by the **Engineer** will include:

(1) **Preliminary Field Surveying**

- (a) The **Engineer** shall establish benchmark identifications, if not already provided by the **Owner**.
- (b) The **Engineer** shall obtain data for existing drainage facilities and/or structures, including size, type, and flowline (upstream & downstream) elevations of structures.
- (c) The **Engineer** shall obtain profiles of intersecting roadways that cross existing and proposed channels.
- (d) The **Engineer** shall obtain flood plain and cross-sections (along with appropriate overbank data), and establish reach lengths, as required.

(2) **Data Collection**

- (a) The **Engineer** shall perform site visits for field reconnaissance.
- (b) The **Engineer** shall identify and obtain data to include, but not be limited to:

Previous Studies:

- (i) Available previous hydraulic and/or engineering studies
- (ii) Previous documentation and/or studies for Federal Emergency Management Agency (FEMA) floodway requirements. Land Records:
- (iii) Parcel mapping
- (iv) Property assessment
- (v) USGS topographic mapping

Property and Facility Management

III. Preliminary Engineering, Design, & Construction (cont.)

- (vi) Land acquisition and disposition
- (vii) Building and property inventory

Land Use Planning and Zoning

- (viii) General plan mapping
- (ix) Zoning mapping
- (x) Demographic mapping
- (xi) Economic development
- (xii) Linking to permitting systems
- (xiii) Existing aerial photographs and/or mapping

Engineering

- (xiv) Storm drain mapping
- (xv) Subdivision mapping
- (xvi) Street mapping

Public Safety

- (xvii) Emergency preparedness plans

Environmental Assessment (if required by Federal/State agencies)

- (xviii) Wetland mapping
- (xix) National Pollution Discharge Elimination System (NPDES) permitting
- (xx) Facility mapping
- (xxi) Vegetation mapping
- (xxii) Coastal zone management

Elections

- (xxiii) District Boundary definition

(3) **Geographical Information System**

The **Engineer** shall develop a Geographical Information System (GIS) utilizing Environmental Systems Research Institute, Inc. (ESRI) ArcView with 3-D Analyst and GIS StreamPro, where appropriate to be compatible with the existing GIS being developed. Import the collected data into ArcView for mapping purposes and presentations to facilitate the decision making and analytical process for the development of the "***Preliminary Engineering Report***". ArcView will also be used to export data to the USACE Hydrologic Center's computer program HEC-River Analysis System (HEC-RAS), which will be used to develop the ***engineering*** models required for the hydraulic analysis of each lateral channel (and associated tributaries) and the plotting of the resultant floodplains. Specifically, ArcView will be used to export this data to HEC-RAS where it will be combined with the field surveyed channel data in order to construct full flood plain cross sections that reflect accurate channel and overbank data for the HEC-RAS models.

Note: During the performance of the following hydrologic / hydraulic analysis and the development of the alternate solutions and final recommendation, the **Engineer** will address and incorporate any findings of the environmental documentation process.

(4) **Hydrologic Analysis**

- (a) The **Engineer** shall review and comment on the hydrologic analyses done to date on the Mission Inlet.

III. Preliminary Engineering, Design, & Construction (cont.)

(5) Hydraulic Analysis

- (a) The **Engineer** shall review and comment on the hydraulic analysis for each existing and proposed structure location utilizing the HEC-RAS computer program; utilizing Manning's Equation to compute water surface profiles with the inputs of cross-section data, roughness coefficients, and flow rates. Specific steps for the hydraulic analysis are outlined in tasks (b) through (g) below.
- (b) The **Engineer** shall create the terrain Triangulated Irregular Network (TIN), if not provided by the Owner. This will be developed from a combination of field survey, aerial photogrammetry, and topographic mapping data in the development of a point table. With this point table, an event theme will be created in ArcView, which will create the terrain TIN with 3-D Analyst.
- (c) The **Engineer** shall create 2-dimensional lines representing the channel centerline, high bank locations, flow path lines, and cross-section locations by locating the various and required poly lines over the terrain TIN develop the watershed layout over the base map
- (d) The **Engineer** shall create the HEC-RAS GIS import file (ASCII text file); this will involve the correlation of the alignment of the cross-sections with the terrain TIN by extracting the elevations from the "terrain TIN and creating a 3-dimensional cross-section theme.
- (e) For verification of measured elevations, the **Engineer** shall edit the HEC-RAS GIS import file by selectively replacing the points taken from the terrain TIN at the channel with actual channel points obtained by the field survey.
- (f) The **Engineer** will review and comment on the accuracy of the HEC-RAS modeling of the existing and proposed structures within Precinct 3 facilities authorized in work authorizations as outlined in Article 7 of the Agreement, and compare the hydraulic results to the effective FIS and existing 100-year flood levels.
- (g) After the HEC-RAS model is satisfactory and the output deemed acceptable, the **Engineer** shall apply the GIS export function to create the HEC-RAS export file in preparation for the flood plain mapping.

(6) Flood Plain Mapping

- (a) Utilizing the HEC-RAS GIS export file, and ArcView GIS StreamPro, the **Engineer** shall map the floodplain over the terrain TIN.
- (b) The **Engineer** shall compare the results by placing the resulting floodplain mapping over the existing Flood Insurance Rate Map (FIRM); scan the FIRM and bring into ArcView an image for this comparison.

(7) Alternate Solutions and Recommendations

- (a) The **Engineer** shall prepare preliminary cost estimates for each alternate solution and final recommendation.

III. Preliminary Engineering, Design, & Construction (cont.)

- (b) The **Engineer** shall summarize each alternate solution in sufficient detail to indicate clearly the problems involved in order for the Owner to make the appropriate comparisons to the Engineer's final recommendations and provide the approval for the final design of the Project.
- (c) The **Engineer** shall provide a formal and clearly outlined recommendation regarding the final design of the Project.

(8) **Final Report**

The **Engineer** shall prepare five (5) bound, color copies of the final "**Preliminary Engineering Report**", including all attachments, exhibits, preliminary layouts, sketches, profiles, and cost estimates.

- (B) **Final Design:** After the **Owner** has approved the **Engineer's** final recommendations as shown in the "**Preliminary Engineering Report**" and the recommendations meet all Federal, State, and County regulations and requirements (including permitting), the **Engineer** will perform all required **engineering** activities to provide the **Owner** with a complete and approved set of plans, specifications, and estimate (PS&E) for each phase of construction of the **Project**. Specific **engineering** activities, tasks, and/or special services to be provided by the **Engineer** will include:

- (1) **Right-of-Way Data (Special Services)** The **Engineer** shall provide a right-of-way (ROW) map to the **Owner** that properly describes the ROW the Owner is to acquire. All procedures and tasks involved in the development of the ROW map will be in accordance with the **Owner's** local operating procedures and the Texas Board of Professional Land Surveying Practices Act. Individual activities and/or requirements include:
 - (a) Abstracting — The **Engineer** shall perform a preliminary title search and determine ownership information.
 - (b) Surveying — The **Engineer** shall obtain the required survey data needed to establish existing and proposed right-of-way lines, channel centerline alignment, private property lines, county and/or city limits, and any topographic information not clearly indicated by the aerial photogrammetry.
 - (c) The **Engineer** shall prepare the ROW map.
 - (d) The **Engineer** shall prepare field note descriptions on 8-1/2 x 14" sheets, signed and sealed by a Registered Professional Land Surveyor, for each parcel of land to be acquired as shown on the ROW map.
 - (e) The **Engineer** shall prepare parcel plats for each parcel of land to be acquired as shown on the ROW map. All parcel plats will be prepared on 8-1/2" x 14" sheets and signed and sealed by a Registered Professional Land Surveyor.
 - (f) Any revisions required to the ROW map, and associated documents, shall be made by the Engineer promptly, and at no additional cost or expense to the Owner. The **Engineer** shall furnish such revised ROW map, and associated documents, to the Owner at no additional cost or expense to the **Owner**.

III. Preliminary Engineering, Design, & Construction (cont.)

(2) **Design Field Surveying (Special Services)**

The **Engineer** shall perform field surveys and provide field layouts and/or information necessary to collect information required in the final design of the **Project**. This may include, but not be limited to, additional channel sections for the determination of final earthwork, roadway cross sections and profiles for intersecting roadways, soil bore staking, and right-of-way staking.

(3) **Geotechnical Investigations (Special Services)**

The **Engineer** shall perform geotechnical investigations and testing for the purpose of foundation studies and design for any pavement, retaining walls, bridges, and/or miscellaneous structures that may be required for final design.

(4) **Permitting**

The **Engineer** shall furnish the necessary *engineering* data required to apply for regulatory permits from local, State, or Federal authorities.

(5) **Channel/Drainage Design**

The **Engineer** shall perform channel / drainage design for the proposed improvements to existing channels and/or facilities, as well as the proposed channels of the Project. The design of drainage improvements shall conform to the Project design criteria, and when possible, the standard designs required by the Owner (City, County, or State) of any associated roadways. These designs shall in all respects combine the application of sound *engineering* principles with a high degree of economy, and shall be submitted to the applicable City, County, State, and/or Federal agencies for approval.

(6) **Roadway Design**

The **Engineer** shall perform roadway design for any intersecting roadway approaches to the proposed improvements to the existing channels and/or proposed channels of the Project. The design of these roadways shall conform to the Project design criteria, and when possible, the standard designs required by the Owner (City, County, or State) of the associated roadway. These designs shall in all respects combine the application of sound *engineering* principles with a high degree of economy, and shall be submitted to the applicable City, County, State, and/or Federal agencies for approval.

(7) **Bridge Design**

- (a) The **Engineer** shall perform bridge design required for any roadway crossings to the proposed improvements to the existing channels and/or proposed channels of the Project. The design of these bridges shall conform to the **Project** design criteria required by the **Owner** (City, County, or State), of the associated -bridge structure and/or roadway, and the requirements set forth by the American Association of State Highway and Transportation Officials (AASHTO), "Standard Specifications for Highway Bridges". These designs shall in all respects combine the application of sound *engineering* principles with a high degree of economy, and shall be submitted to the applicable City, County, State, and/or Federal agencies for approval.

III. Preliminary Engineering, Design, & Construction (cont.)

- (b) Prior to performing structural detailing, the **Engineer** shall provide a bridge layout to the governing entity of the associated bridge structure and/or roadway for approval. Each bridge layout will include the required information set forth by the governing entity.
- (8) **Plans, Specifications & Estimates (PS&E)**
- (a) The **Engineer** shall prepare contract drawings, specifications and estimates for construction of the **Project** or portions of the **Project** as authorized by the **Owner**. These documents shall in all respects combine the application of sound *engineering* principles with a high degree of economy, and shall be submitted to the applicable City, County, State, and/or Federal agencies for approval.
- (b) All final plan sheets shall be developed, by the **Engineer**, on 11" x 17" reproducible, 4 mil, double-matte, white, opaque film.
- (c) Graphics files shall be developed by the **Engineer** in Microstation design file format, and must plot consistent with the reproducible plots submitted.
- (d) **Plan Sheets:** Plan sheets developed by the **Engineer** shall include, but not be limited to, title sheet, typical sections, sequence of construction, traffic control (as applicable), specification data (including schedules for minimum sampling and testing), estimate and quantity, plan-profile, channel details, roadway details (as applicable), bridge and culvert details, hydraulic details, and standards. (Standards may be used from governing entities, but must be signed and dated by the **Project Engineer** of responsible supervision as being applicable to the **Project**.)
- (e) **Specifications:** Whenever possible, the **Engineer** shall use the Texas Department of Transportation 's 1993 Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges. Other specifications may be developed by the **Engineer**, but must incorporate, to the extent possible, references to standard requirements of AASHTO design and AASHTO testing procedures.
- (f) **Estimates.:** The **Engineer** shall prepare detailed cost estimates and proposals of authorized construction, which shall include summaries of bid items and quantities based, insofar as practicable, on the unit price system of bidding. The **Engineer** shall not be required to guarantee the accuracy of those estimates.
- (C) **Construction Phase Services:** The **Engineer** shall provide *engineering* services for each authorized construction contract of the **Project**. Specific *engineering* work activities, tasks, and/or special services to be provided by the **Engineer** will include:
- (1) **Construction Bidding:** The **Engineer** shall prepare the documents for all necessary copies of approved plans, specifications, notices to bidders, and proposals.

Note: Services for assistance in advertising for each authorized construction contract for the **Project**, opening and tabulation of bids, recommendations to the **Owner** as to the proper action on all bid proposals received, and the preparation of formal contract documents for the award of each construction contract will be performed by the **Engineer**.

III. Preliminary Engineering, Design, & Construction (cont.)

(2) Project Site Representation

- (a) In general, the **Engineer** shall provide the *engineering support and data* required for consultation and advisement to the **Owner**, and to protect the **Owner** against defects and deficiencies in the work of the **Contractor**.
- (b) **Daily and Weekly Reports:** The **Engineer** shall provide the *engineering support and data* required to monitor the **Contractor's** progress with daily and weekly reports as outlined in the "*Construction Management Policy & Procedures Manual*" developed and more particularly identified under I — Engineering Management in this exhibit. This information will be utilized for the development of the *monthly progress report* to be provided to the **Owner** as identified under Section I-Engineering Management in this exhibit.
- (c) **Contractor Payment:** The **Engineer** shall take measurements and calculate quantities, in accordance with the construction contract specifications, of those items of work accepted and conforming to the construction contract specifications, for the preparation of the monthly and final estimates for payment to the **Contractor** as identified and performed under I — Engineering Management in this Exhibit.

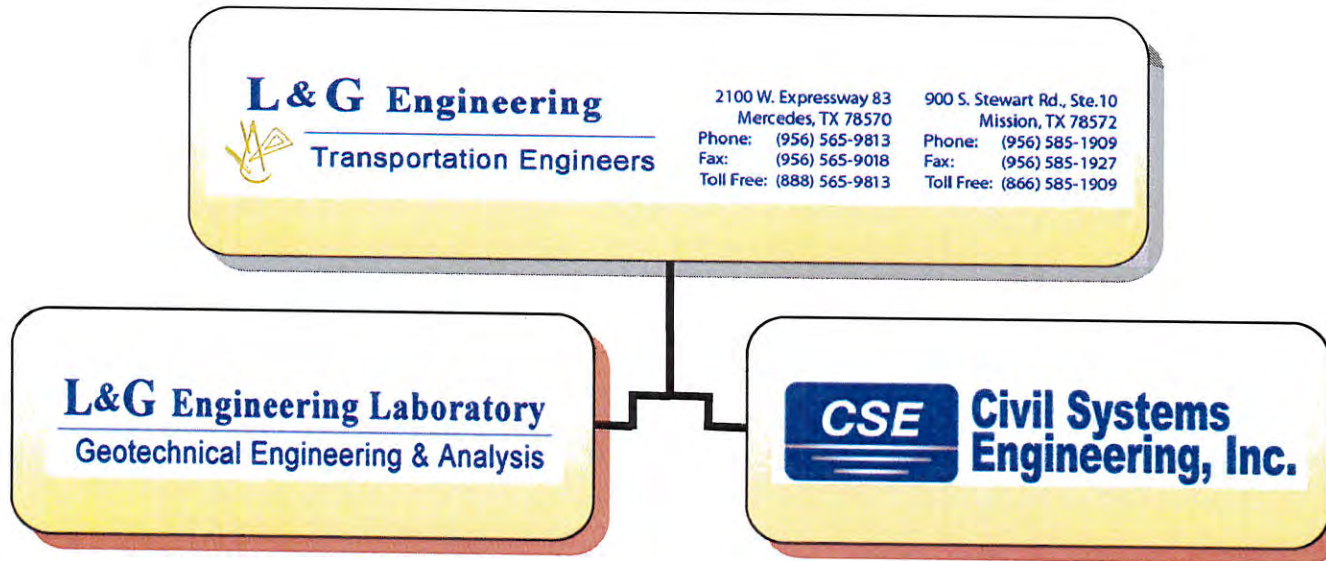
Note: The **Engineer** is not responsible for actual payments to the **Contractor**.

- (d) The **Engineer** will provide **Project** site representation of the authorized construction contract as follows:
 - (i) **Project Engineer.** The **Engineer** will provide visits by the *Project Engineer* or a competent representative of the **Engineer** to the site of construction at least three times each week for the purpose of monitoring the **Contractor's** progress and conformance to the construction contract plans and specifications.
 - (ii) **Resident Engineer.** If authorized by the **Owner**, the **Engineer** will furnish the services of a *Resident Engineer* and/or construction representative(s) for continuous on-the-site representation.

(3) Miscellaneous Technical Activities

- (a) **Construction Field Surveying:** The **Engineer** shall perform all field surveys and field layouts, including construction staking and right-of-way staking.
- (b) **Shop Drawings:** The **Engineer** shall review and check all shop or working drawings furnished by the **Contractor**.
- (c) **Control of Materials & Equipment.** The **Engineer** shall provide inspection of all materials and equipment furnished/used by the **Contractor** as follows:
 - (i) Review and record all laboratory, shop and mill tests of materials and equipment for compliance with the construction contract specifications.
 - (ii) Observe and/or perform **Project** record testing and/or independent assurance testing as outlined in the construction contract specifications.

Exhibit B2 – Project Team



L&G Consulting Engineers, Inc.
2100 W. Expressway 83
Mercedes, TX 78570
Ph. (956) 565-9813
Fax (956) 565-9018

L&G Engineering Laboratory, LLC
2100 W. Expressway 83
Mercedes, TX. 78570
Ph (956) 565-0760
Fax (956) 565-9018

Civil Systems Engineering, Inc.
2299 Lone Star Drive, Ste #239
Sugarland, Texas 77479
Ph (713) 782-3811
Fax (713) 298-6819

III. Preliminary Engineering, Design, & Construction (cont.)

(d) **Change Orders:** When applicable, the **Engineer** will prepare the *engineering* data, including plan sheet drawings, specifications, and estimates, for the preparation of construction contract change orders, which may be required due to actual field conditions encountered or new requirements directed by the **Owner**.

(4) **Final Acceptance**

(a) **Performance Testing:** Following the completion of construction by the **Contractor**, the Engineer shall provide the *engineering* support and data required for the initial operation of the **Project**. This will include inspection for conformance and recordkeeping for the necessary performance tests required by the construction contract specifications. The **Engineer** will provide this inspection with either the *Project Engineer* or *Resident Engineer*, as directed by the **Owner**.

(b) **As-Built Drawings:** The **Engineer** shall develop as-built drawings to show the work as actually constructed.

ATTACHMENT “C”

Work Schedule

The **Laboratory** will provide the deliverables for this Work Authorization in accordance with the following:

- Field drilling operations can begin within five (5) to seven (7) days following Notice to Proceed (NTP); staking of the borings, clearing of the boring locations of utilities and site and weather conditions permitting. (It should be noted all Right of Entry needs to be completed by the **Engineer**. Any delay in Right of Entry acquisitions will result in delay of the schedule as provided in this Work Authorization.)
- Field drilling operations will take approximately:
 - Division I will take approximately 18 to 24 days
- Laboratory testing operations will be completed within two (2) weeks after completion of the drilling operations
- Geotechnical Engineering Technical Memorandum including geotechnical analyses will be completed within six (6) weeks after completion of the drilling operations and laboratory testing.

The **Laboratory** will inform the **Engineer** (in reasonable advance of the delay) should the **Laboratory** encounter delays that would prevent the performance of all work in accordance with the above work schedule.

Laboratory: L&G Engineering Laboratory, LLC
Engineer: L&G Consulting Engineers, Inc.

EXHIBIT "D"

CONTRACT RATES



L & G Engineering

Transportation Consulting Engineers

Audited Overhead Rate FY 2012

Labor/Staff Classification	Hourly Base Rate	Contract Rate FY 13	Contract Rate *FY 14
Principal	\$ -	\$ -	\$ -
Senior Project Manager	\$ 68.00	\$ 206.39	\$ 212.59
Senior Engineer	\$ 56.00	\$ 169.97	\$ 175.07
Project Engineer	\$ 39.00	\$ 118.37	\$ 121.92
Senior Environmental Scientist/Specialist	\$ 43.00	\$ 130.51	\$ 134.43
Design Engineer	\$ 36.00	\$ 109.27	\$ 112.55
ROW Administrator	\$ 34.00	\$ 103.20	\$ 106.29
ROW Negotiator	\$ 31.00	\$ 94.09	\$ 96.91
EIT	\$ 26.00	\$ 78.92	\$ 81.28
Senior Engineer Tech	\$ 25.00	\$ 75.88	\$ 78.16
Senior Environmental Scientist	\$ 43.00	\$ 130.51	\$ 134.43
Environmental Scientist/ Specialist	\$ 25.00	\$ 75.88	\$ 78.16
Engineer Tech	\$ 24.00	\$ 72.84	\$ 75.03
CADD Operator / GIS Analyst	\$ 21.00	\$ 63.74	\$ 65.65
Admin/Clerical	\$ 18.00	\$ 54.63	\$ 56.27
Biologist	\$ 16.00	\$ 48.56	\$ 50.02

Overhead Rate: 171.00%
 Profit Rate: 12.00%
 * FY 2014 Escalation Rate: 3.00%

Other Direct Expenses:	Cost
Lodging	\$85/night
Meals	\$36/day
Mileage	\$0.55/mile
Car Rental	\$50.00/day
Air Travel (Coach/Business Class)	At Cost
8 1/2" X 11" copies	\$1.00/sheet
11" X 17" copies	\$1.50/sheet
11" X 17" Mylar	\$2.00/sheet
Overnight Mail - Letter Size	\$15.00/Each
Overnight Mail - Oversized Box	\$25.00/Each

EXHIBIT "D"

CONTRACT RATES



**Civil Systems
Engineering, Inc.**

Labor/Staff Classification	Hourly Base Rate	FY 13 Contract Rate	* F14 Contract Rate
Principal/QA/QC	\$80.00	\$219.52	\$226.11
Program Manager	\$70.00	\$192.08	\$197.84
Project Manager	\$65.00	\$178.36	\$183.71
Hydraulic Engineer	\$60.00	\$164.64	\$169.58
Project Engineer	\$60.00	\$164.64	\$169.58
GIS Specialist	\$50.00	\$137.20	\$141.32
Admin/Clerical	\$25.00	\$68.60	\$70.66
Overhead Rate:	145%		
Profit Rate:	12%		
* FY 2014 Escalation Rate:	3%		
Other Direct Expenses:			
	Cost		
Lodging	\$85/night		
Meals	\$36/day		
Mileage	\$0.55/mile		
Car Rental	\$50.00/day		
Air Travel (Coach/Business Class)	At Cost		
8 1/2" X 11" copies	\$1.00/sheet		
11" X 17" copies	\$1.50/sheet		
11" X 17" Mylar	\$2.00/sheet		
Overnight Mail - Letter Size	\$15.00/Each		
Overnight Mail - Oversized Box	\$25.00/Each		

EXHIBIT D CONTRACT RATES

L&G Engineering Laboratory



L & G Engineering Laboratory

Geotechnical • Construction Material Testing

Audited Overhead Rates Year End 2010

Labor/Staff Classification	Hourly Base Rate	Contract Rate FY 13	Contract Rate FY 14	Contract Rate FY 15
Principal	\$ -	\$ -	\$ -	\$ -
Senior Project Manager	\$ 68.00	\$ 241.40	\$ 248.64	\$ 256.10
Senior Geotechnical Engineer	\$ 56.00	\$ 198.80	\$ 204.76	\$ 210.91
Geotechnical Engineer	\$ 39.00	\$ 138.45	\$ 142.60	\$ 146.88
Design Engineer	\$ 36.00	\$ 127.80	\$ 131.63	\$ 135.58
EIT	\$ 26.00	\$ 92.30	\$ 95.07	\$ 97.92
Engineering Specialist	\$ 32.00	\$ 113.60	\$ 117.01	\$ 120.52
Junior Engineering Specialist	\$ 28.00	\$ 99.40	\$ 102.38	\$ 105.45
Engineering Tech	\$ 24.00	\$ 85.20	\$ 87.76	\$ 90.39
Junior Engineering Tech	\$ 22.00	\$ 78.10	\$ 80.44	\$ 82.86
CADD Operator	\$ 21.00	\$ 74.55	\$ 76.79	\$ 79.09
Concrete & Asphalt Technician	\$ 16.00	\$ 56.80	\$ 58.50	\$ 60.26
Soils & Aggregate Technician	\$ 16.00	\$ 56.80	\$ 58.50	\$ 60.26
Biologist	\$ 16.00	\$ 56.80	\$ 58.50	\$ 60.26
Senior Environmental Scientist/Specialist	\$ 43.00	\$ 152.65	\$ 157.23	\$ 161.95
Environmental Scientist/ Specialist	\$ 25.00	\$ 88.75	\$ 91.41	\$ 94.15
Admin/Clerical	\$ 18.00	\$ 63.90	\$ 65.82	\$ 67.79

Audited Rate: 217.19% Profit Rate: 12%	Contract Rates include labor, overhead, and profit. Contract Rates to be used to derive lump sum totals. All rates are negotiated rates and are not subject to change or adjustment.
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Percent complete to be billed.

Other Direct Expenses:	Cost
Lodging	\$85/night
Meals	\$36/day
Mileage	\$0.55 / mile
Car Rental	\$50.00/day
Air Travel (Coach/Business Class)	At Cost
8 1/2" X 11" copies	\$1.00/sheet
11" X 17" copies	\$1.50/sheet
11" X 17" Mylar	\$2.00/sheet
Overnight Mail - Letter Size	\$15.00/Each
Overnight Mail - Oversized Box	\$25.00/Each

JG Approved 1-21-2013
Revision 0

CONSTRUCTION MATERIAL TESTING SERVICES

Soils Testing

Moisture Content Determination	ASTM D 2216 - Tex-103-E	\$8.50/Ea.
Determination of Liquid Limit of Soils	Tex-104-E	\$45.00/Ea.
Determination of Plastic Limit of Soils	Tex-105-E	\$45.00/Ea.
Atterberg Limits of Soils	ASTM D 4318 - Tex-106-E	\$65.00/Ea.
Bar Linear Shrinkage of Soils	Tex-107-E	\$60.00/Ea.
Particle Size Analysis of Soils (Gradation)	ASTM D 422 - Tex-110-E	\$60.00/Ea.
Material Finer #200 Sieve	ASTM D 1140 -Tex-111-E	\$60.00/Ea.
Lime Series Testing (PI Relation)	Tex-112-E	\$400.00Ea.
Moisture-Density Relationship (TxDOT)	Tex-113-E / Tex-114-E	\$165.00/Ea.
Standard Proctor	ASTM D 698	\$160.00/Ea.
Modified Proctor	ASTM D 1557	\$165.00/Ea.
Field Density Test (Nuclear)	ASTM D 2950 - Tex-115-E	\$25.00/Ea.
Determination of Soil pH	Tex-128-E	\$70.00/Ea.
Soil-Lime Testing	Tex-121-E (Part I)	\$140.00/Ea.
Resistivity of Soils	Tex-129-E	\$85.00/Ea.
Texas Wet Ball Mill (Base Material Quality)	Tex-116-E	\$180.00/Ea.
Triaxial Compression Test (Dist. Soil & Base)	Tex-117-E	\$350.00/Ea.

Coarse and Fine Aggregate Quality Testing

Sieve Analysis (Dry)(4 Sieve)	ASTM C 136 - Tex-200-F	\$65.00/Ea.
Sieve Analysis (Washed)(4 Sieve)	ASTM C 136 - Tex-200-F	\$65.00/Ea.
Sieve Analysis (Concrete Aggr.)(5 Sieve)	Tex-401-A	\$65.00/Ea.
Sieve Analysis (Additional Sieves)	All Methods	\$12.00/Ea.
Deleterious Material (Coarse Aggr.)	Tex-217-F (Part I)	\$40.00/Ea.
Deleterious Material (Concrete Aggr.)	Tex-413-A	\$40.00/Ea.
Decantation (Coarse Aggr.)	Tex-217-F (Part II)	\$10.00/Ea.
Decantation Test (Fine Aggr. - Conc.)	ASTM C 117 - Tex-406-A	\$40.00/Ea.
Specific Gravity/Absorp. (Concrete Aggr)	ASTM C 127 - Tex-403-A	\$75.00/Ea.
L.A. Abrasion	ASTM C131 - Tex-410-A	\$500.00/Ea.
Soundness (5 Cycle Magnesium Sulfate)	ASTM C 88 - Tex-411-A	\$500.00/Ea.
SSD Unit Weight of Aggregates	ASTM C 29 - Tex-404-A	\$60.00/Ea.
Percent Voids/Solids in Conc. Aggr.	Tex-405-A	*\$15.00/Ea.
*(In Conjunction w/ SSD Unit Wt of Aggregates)		
Sand Equivalent	ASTM D 2419 - Tex-203-F	\$75.00/Ea.
Specific Gravity / Absorption (Fine Aggr.)	ASTM C 128 - Tex -403-A	\$75.00/Ea.
Organic Impurities (Fine Aggr.)	ASTM C 87 - Tex -408-A	\$45.00/Ea.
Fineness Modulus (Fine Aggr.)	Tex-402-A	\$15.00/Ea.
Flat & Elongated Particles (Coarse Aggr.)	Tex-280-F	\$60.00/Ea.
Coarse Aggr. Ang. – Crushed Face (Coarse Aggr.)	Tex-460-A (Part I)	\$80.00/Ea.
Acid Insoluble of Fine Aggregate	Tex-612-J	\$75.00/Ea.

Pavement Testing (Mix and Roadway) / Asphalt Quality

Sieve Analysis (Paving Mix Gradation)	Tex-236-F / Tex-200-F	\$90.00/Ea.
Asphalt Content	Tex-236-F	\$90.00/Ea.
Voids in Mineral Aggr. (VMA)	Tex-207-F	\$110.00/Ea.
Boil Test (Effect of Water on Paving Mix)	Tex-530-C / Tex-531-C	\$80.00/Ea.
Indirect Tensile Strength Test	Tex-226-F	\$600.00/Ea.
Moisture Content (Paving Mix)	Tex-212-F (Part II)	\$15.00/Ea.
Lab Molded Density	Tex-207-F	\$80.00/Ea.
Hamburg Wheel Tracker	Tex-242-F	\$900.00/Ea.
Field Coring – ACP Thickness	ASTM D 3549	\$55.00/Ea.
Pavement Thickness Determination (Full Depth)	ASTM D 3549	\$55.00/Ea.
Density of Asphaltic Cores (4 or 6 inch) (Set of 2)	Tex-207-F	\$65.00/Set
In-Place Air Voids	Tex-207-F	\$25.00/Ea.
Maximum Theoretical SPG (Rice Gravity)	Tex-227-F	\$90.00/Ea.
Extraction/Sieve Analysis/Asphalt Content	Tex-210-F / Tex-200-F	\$180.00/Ea.
Asphalt Rolling Pattern (Nuclear Method)	Tex-207-F (Part IV)	\$ 35.00/Ea.
Segregation Profile	Tex-207-F (Part V)	\$300.00/Ea.
Joint Density	Tex-207-F (Part VII)	\$300.00/Ea.
Tack Coat Adhesion	Tex-243-F	\$100.00/Ea.
Thermal Profile	Tex-244-F	\$175.00/Ea.
Ride Quality	Tex-1001-S	\$ At Cost

Pavement Investigation (All Inclusive – QA Verification Field Sample) ~

Includes Core Existing Asphalt for Thickness, Perform Caliche Base Thickness, Sieve Analysis & Plasticity Index, Stabilized Subgrade Thickness & Plasticity Index \$400.00/Ea.

Concrete and Masonry Field and Laboratory Testing

Temperature Test (Fresh Mix Conc.)	Tex-422-A	No Charge*
Slump Test	ASTM C 143 - Tex-415-A	No Charge*
Air Content (Pressure Method)	ASTM C 138 - Tex-416-A	\$25.00/Ea.
Air Content (Volumetric)	ASTM C 173	\$35.00/Ea.
Casting of Concrete Cylinders	ASTM C 31 - Tex-447-A	No Charge*
Cylindrical Specimen Prep./Hold/Cure	ASTM C 192 - Tex-447-A	\$10.00/Ea.
Compressive Strength of Cyl. Specimen	ASTM C 39 - Tex-418-A	\$15.00/Ea.
~Total Cost Per Cyliner =		\$25.00/Ea.
Casting of Grout Prisms	ASTM C 1019	No Charge*
Grout Prism Prep./Cure/Compressive Strength	ASTM C 39	\$30.00/Ea.
Casting of Mortar Cubes	ASTM C 780	No Charge*
Mortar Cube Prep./Cure/Compressive Strength	ASTM C 109	\$30.00/Ea.
Masonry Unit Prep. /Compressive Str. (Set of 3)	ASTM C 140	\$200.00/Set
Masonry Unit SPG/Abs./Unit Wt. (Set of 3)	ASTM C 140	\$200.00/Set

*(In Conjunction w/ Field Inspection)

Miscellaneous Testing

Drilled Shaft Slurry Density	Tex-130-E (Part II)	\$20.00/Ea.
Drilled Shaft Slurry Sand Content	Tex-130-E (Part III)	\$15.00/Ea.
Drilled Shaft Slurry Viscosity	Tex-130-E (Part IV)	\$20.00/Ea.

Engineering Review, Evaluation, Management & Administration

Test Report.....\$18.00/Ea.

The specific hourly rate within each classification listed under Direct Labor depends on the experience, training, and qualifications of the personnel. A two (2) hour minimum billing at the applicable rate will be assessed per visit to project site.

Services provided on Saturday, Sunday and all work in excess of “normal” work hours will be invoiced at an overtime rate 1.5 times the applicable rate for the work performed. The cost of services is based upon the assumption that services will be provided during “normal” working hours. Normal working hours are between 7:00 a.m. and 6:00 p.m., Monday through Friday.

A Project Administrative Fee will be assessed on a per invoice basis equal to 15% fixed fee adjustment. This Project Administrative Fee includes engineering review, oversight, evaluation, management and administration.

Expenses:

Mileage.....0.55 cents/mile

All other project specific, third-party costs will be charged at cost plus 15 percent. Invoices will be submitted monthly for work in progress in our standard format. They are due and payable upon receipt and become past due 30 days after the billing date. Past due invoices may be subject to late charges at the rate of 1 ½ percent per month (18 percent per annum). In the event that the State of Texas legislates a sales tax on Professional Services, the amount of the tax will be added to the appropriate service rate charged. Our invoices are due and payable upon receipt at 2100 W. Expressway 83, Mercedes, Texas 78570.



**AGENDA
DRAINAGE DISTRICT
BOARD OF DIRECTORS
April 16, 2013
9:00 A.M.**

NOTICE is hereby given in accordance with Chapter 551, Texas Government Code, that a SPECIAL MEETING of the Drainage District #1 Board of Directors will be held at the Edinburg Council Chambers, 415 W. University Drive, Edinburg, Hidalgo County, Texas. Discussion and possible action relating to the following business will be transacted:

1. **Roll Call**
2. **Open Forum**
3. **Approval of Consent Agenda**
4. **AI-38184**
 - A.) Requesting approval to enter into a lease agreement with DELL through the District's Membership with Department of Information Resources (DIR) Contract # DIR-SDD-1951 for ten (10) Optiplex 7010 Desktop Computers.
 - B.) Requesting approval to accept sole bid received for RFB No. 13-009-03-06 "One (1) Reconditioned Truck Mounted Motor crane/Dragline with One (1) yard bucket" and approval to issue purchase order to BYR Enterprises.
 - C.) Request approval to accept sole bid received for RFB No. 13-013-04-10 "Gasoline, On & Off Highway Diesel Fuel" and approval to award Contract to Gold Star Petroleum, Inc.
 - D.) Requesting approval to advertise for RFB No. 13-016-05-10 "MILE 17 ½ ROAD IMPROVEMENTS"
5. **AI-38191**
 - A. Request approval of Budget Amendment from the District General Fund for the carry-over of encumbrances from 2012 for the Maintenance and Operations and Administrative departments.
 - B. Request approval to bring forward the remaining budget balances from 2012 to the District's Capital Project Funds and the 2008 Bond Series Fund Budget of 2013.
6. **AI-38196 2013 BOND SERIES**

Rural Drainage Development -Precinct #3

A.-Request approval of Supplemental Agreement No. 1 under Contract for Professional Engineering Services between Hidalgo County Drainage District No. 1

and L&G Engineering for the management and professional engineering services of Pct.3-La Joya Watershed Improvement Project as approved by the Board on February 5, 2013, to reflect amended Exhibit "B"-Scope of Services to be provided by Engineer.

B.-Request approval of Supplemental Agreement No. 1 to Work Authorization No. 1 under Agreement for Professional Engineering Services between Hidalgo County Drainage District No. 1 and L&G Engineering for the management and professional engineering services of Pct.3-La Joya Watershed Improvement Project as approved by Board on February 5, 2013, to reflect amended Exhibit "B" Scope of services to be provided by Engineer.

C.-Request approval to reimburse the District General Fund \$88,524.98 for the first invoice payment of the La Joya Watershed Improvement Project; as per reimbursement resolution approved by Board on December 4, 2012.

Delta Area Watershed Development-Precinct #1

C.-Request approval of Work Authorization No. 2- Delta Watershed Project under Agreement for Professional Engineering Services between Hidalgo County Drainage District No. 1 and TEDSI Infrastructure Group, Inc. for the management and professional engineering services of the 2012 Bond Referendum Improvement Project as approved by Board on April 9, 2013.

D.-Approval to appropriate funds out of the 2013 Bond Series for engineering services for the Delta Watershed Project engineering account.

Levee Pumps/Culvert Structure Improvements-Precinct #4

E. Request approval of Supplemental Agreement No. 1 to Work Authorization No. 1-Flood Pumps 1-East Donna Drain, 2-Weslaco Drain, 3-South Mercedes Drain and 4-Mercedes Lateral under Agreement for Professional Engineering Services between Hidalgo County Drainage District No. 1 and TEDSI Infrastructure Group, Inc. for the management and professional engineering services of the 2012 Bond Referendum Improvement Project as approved by Board on April 9, 2013, to reflect geotechnical cost per pump location.

F. Approval to appropriate funds out of the 2013 Bond Series for engineering services for the following project accounts:

- 1.-East Donna Drain-Pct.1-Engineering (geo-technical) - \$25,500
- 2.-Weslaco Drain Lateral-Pct.1-Engineering (geo-technical) - \$25,500
- 3.-South Mercedes Lateral-Pct.1-Engineering (geo-technical) - \$25,500
- 4.-Mercedes Lateral-Pct.1-Engineering (geo-technical) - \$25,500

7.

Closed Session:

Board of Directors may go into Closed Session pursuant to Chapter 551, Texas Government Code, Sections 551.071 & 551.072 to discuss the following:

A.

Real Estate Acquisition



**AGENDA
DRAINAGE DISTRICT
BOARD OF DIRECTORS**

April 9, 2013

9:00 A.M.

NOTICE is hereby given in accordance with Chapter 551, Texas Government Code, that a SPECIAL MEETING of the Drainage District #1 Board of Directors will be held at the Commissioners' Courtroom of the Administration Building, 100 E. Cano, Edinburg, Hidalgo County, Texas. Discussion and possible action relating to the following business will be transacted:

1. **Roll Call**
2. **Open Forum**
3. **Approval of Consent Agenda**

4. **AI-38018 2013 BOND SERIES:**

A. Requesting approval of final negotiated contract for Professional Engineering Services and approval of Work Authorization No.1 as it relates to Pct. 1 2012 Bond Referendum Improvement Projects Flood Pumps: East Donna Drain, Weslaco Drain, South Mercedes Drain and Mercedes Lateral. Approved for negotiations by HCDD1 Board of Directors on January 15, 2013.

B. Requesting approval of final negotiated contract for Professional Engineering Services and approval of Work Authorization No.1 as it relates to Pct. 4 North Seminary Drainage Topographic Surveying. Approved for negotiations by HCDD1 Board of Directors on January 15, 2013.

C. Requesting approval of final negotiated contract for Professional Engineering Services and approval of Work Authorization No.1 as it relates to Pct. 2 Rado Drain Alternate. Approved for negotiations by HCDD1 Board of Directors on January 15, 2013.

D. Requesting approval of final negotiated contract for Professional Engineering Services and approval of Work Authorization No.1 as it relates to Pct.3 Mission Inlet Recertification. Approved for negotiations by HCDD1 Board of Directors on January 15, 2013.

E. Requesting approval to rescind action taken on March 5, 2013 Agenda Item No. 37367 (A) as it relates to HCDD1 2013 Professional Engineering Pool.

F. Requesting approval of attached specifications and approval to advertise for RFQ No. 13-015-05-08 "Professional Engineering Services-Pool"

G. Discussion and Action of Stand Alone Project Specific Professional Liability Insurance for Architects and Engineers on HCDD1 Projects.

H. Discussion and Action of Stand Alone Project Specific Professional Liability Insurance for Appraisers and Surveyors on HCDD1 Projects.

5. **AI-38079** A. Request approval to appropriate proceeds received from the Hidalgo County Drainage District #1 2013 Bond Series - 84,000,000. 2013 Bond Series - fund # 133 in the District's Capital Projects will be created to account for the disbursements of these proceeds as specified in the 2012 Bond Resolution approved on September 4th 2012. Dollar amounts for each project are currently in an undistributed accounts per project. As Projects progress and Engineering and Construction contracts are awarded by the Board, transfer will be made through Board Action.
- B. Approval to transfer funds from undistricted to specified line items in the follow 2013 Bond Series Projects:
1. Rural Drainage Development - Precinct #3
 - a. La Joya Water Shed - Engineering - \$ 705,552.
 2. Rado Drain Re- Route - Precinct #2 - Engineering - \$293,457
 3. Mission Inlet Re- Certification - Precinct #3 Engineering - \$857,568.
 4. Rural Drainage Development - Precinct # 4
 - a. North Seminary States - Engineering - \$9,596.42
 5. Levee Pumps/ Culvert Structure Improvements :
 - a. East Donna Drain - Precinct #1 - Engineering - \$ 135,310
 - b. Weslaco Drain Lateral - Precinct #1 - Engineering - \$135,310
 - c. South Mercedes Lateral - Precinct #1 - Engineering - \$135,310
 - d. Mercedes Lateral - Precinct #1 Engineer - \$ 135,310.

6. **Closed Session:**
Board of Directors may go into Closed Session pursuant to Chapter 551, Texas Government Code, Sections 551.071 & 551.072 to discuss the following:

- A. **Real Estate Acquisition**
- B. **Pending and/or Potential Litigation**

7. **Open Session:**

- A. **Real Estate Acquisition**
- B. **Pending and/or Potential Litigation**

8. **Closed Session:**
Board of Directors may reconvene into Closed Session for the discussion regarding the agenda items listed
9. **Open Session:**
Board of Directors may reconvene into Open Session for the discussion regarding the agenda items listed
10. **Adjourn**

EXHIBIT "E"

**SUPPLEMENTAL AGREEMENT NO. 3
TO AGREEMENT FOR PROFESSIONAL SERVICES**

THIS SUPPLEMENTAL AGREEMENT is made pursuant to the terms and conditions of **Article 8** of the Agreement made by and between Hidalgo County Drainage District No. 1, hereinafter called the "**Owner**", and L&G Engineering, hereinafter called the "**Engineer**".

WITNESSETH

WHEREAS, the **Owner** and the **Engineer** executed the Agreement on the 9th day of April, 2013 concerning **Engineering** services for the Mission Inlet Recertification Project (hereinafter referred to as the "**Project**"); and

WHEREAS, **Article 8** of the Agreement, (Supplemental Agreements), establishes that the terms of the agreement can be amended by a supplemental agreement; and WHEREAS, it has become necessary to amend the Agreement to revise the Article identified below.

A. AGREEMENT

NOW THEREFORE, premises considered, the **Owner** and the **Engineer** agree that said Agreement is amended as follows:

I. Article 5.1 *Basic Services* is revised as follows:

- "For and in consideration of the Basic Services to be rendered by the Engineer, as identified in Article 2 and more particularly identified in EXHIBIT "B", attached hereto, the maximum amount payable by the Owner to the Engineer for Basic Services, subject to adjustment in accordance with Article 6.1 herein, is equal to seven and a quarter (7.25%) of the construction cost of the Project, as mutually-agreed between the Owner and the Engineer and more particularly defined in Article 6.1 herein [...]."

All other provisions are unchanged and remain in full force and effect.

IN WITNESS WHEREOF, the **Engineer** and the **Owner** have caused this Supplemental Agreement to the Agreement for Professional Services to be executed as of the _____ day of _____, 2015.

THE ENGINEER:

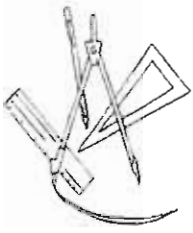
THE OWNER:

Mr. Jacinto Garza, P.E.
President – L&G Engineering

Chairman of the Board
Hidalgo County Drainage District No. 1

APPROVED AS TO FORM:
ATLAS, HALL & RODRIGUEZ, LLP.

By: _____



L&G Engineering

Transportation Consultants

December 11, 2015

Mr. Raul Sesein, P.E., District Manager
Hidalgo County Drainage District No. 1
902 N. Doolittle Rd.
Edinburg, Texas 78541

RE: Mission Inlet Recertification Project
Supplemental Agreement No. 3 to Agreement for Professional Engineering Services

Dear Mr. Sesein,

Attached for your review and execution are two unexecuted Supplemental Agreement No. 3 to Agreement for Professional Services for the Mission Inlet Recertification Project. The purpose of this Supplemental Agreement is to update Article 5.1 *Basic Services* within the Agreement to reflect the new maximum amount payable of 7.25%.

If you have any additional questions or comments regarding this work authorization please feel free to contact me at any time.

Respectfully Submitted,

David Saenz, P.E.
Project Manager – L&G Engineering

Attachments: (1) Mission Inlet Recertification Project – Supplemental Agreement No. 3 to Agreement for Professional Services

cc: Mr. Jacinto Garza, P.E. – President/CEO - L&G Engineering

AI -52641

7.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Jaime Salazar

Submitted By: Jaime Salazar, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Requesting approval to submit Application for Federal Assistance Hazard Mitigation Grant as it relates to varioius Drainage District projects and approval to allow Drainage District General Manager to sign applications.

BACKGROUND

Fiscal Impact

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 08:49 AM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Jaime Salazar		Started On: 12/11/2015 08:41 AM
Final Approval Date: 12/11/2015		

AI -52642

8.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Jaime Salazar

Submitted By: Jaime Salazar, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Requesting approval to to pay Invoice No. M-1918 in the amount of \$2,320.00 as claim to Rio Valley Switching Company as it relates to repairs to Railroad crossing at Bus 83 and Mile 2 East.

BACKGROUND

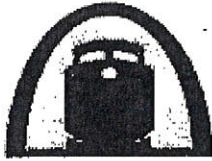
Fiscal Impact

Attachments

Rio Valley Switching

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 10:10 AM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Jaime Salazar		Started On: 12/11/2015 08:49 AM
Final Approval Date: 12/11/2015		



RIO VALLEY SWITCHING COMPANY



Tel (618)632-4400 Fax (618)632-4562
P.O. Box 99, O'Fallon, IL 62269

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

NOV 03 2015

12:00 AM/PM
BY: *Rosalie*

facsimile transmittal

To:	Rose / Lora Briones	Fax:	956 292 -7089
From:	Elizabeth Costante - 956 971 9111 ext 111	Date:	10/30/2015
Re:	Outstanding Invoice	Pages:	2
Urgent	Please Comment	Please Reply	Please Recycle

Hello,

Can you please assist us with payment status on the following invoice, it is currently over 30 days old.

Thank you,

Elizabeth Costante



RIO VALLEY SWITCHING CO.
 P.O. BOX 99
 O'FALLON, IL 62269

Invoice No.: M-1918

Phone: 618-632-4400 Fax: 618-632-4562

INVOICE

Customer

Hidalgo County Drainage District

902 Doolittle

Edinburg, TX 78542

Date 8/21/2015

Terms upon receipt

Description	TOTAL
<u>Incident RV15-010</u>	
Repair to railroad crossing caused by your driver (Rene Flores) at Bus 83 and Mile 2 East on 03.02.15 per attached police report	
Labor	\$ 225.00
Material	\$ 1,477.00
Equipment	\$ 618.00
Tax	assume exempt (gov't agency)
TOTAL	\$ 2,320.00

PLEASE REMIT PAYMENT TO RIO VALLEY SWITCHING CO. AT THE ABOVE ADDRESS
 (VISIT OUR WEBSITE AT [HTTP://WWW.RIOVALLEYSWITCHING.COM](http://www.riovalleyswitching.com))

AI -52646

9.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Jaime Salazar

Submitted By: Jaime Salazar, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Requesting approval of WA No. 5 to Mission Inlet Recertification agreement with L&G Engineering in the amount of \$1,287,482.53 as it relates to Engineering Services for Mission Inlet.

BACKGROUND

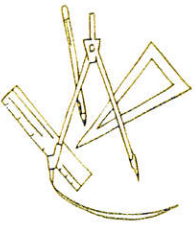
Fiscal Impact

Attachments

WA No. 5

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 10:11 AM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Jaime Salazar		Started On: 12/11/2015 09:31 AM
Final Approval Date: 12/11/2015		



December 11, 2015

Mr. Raul Sesan, P.E., District Manager
Hidalgo County Drainage District No. 1
902 N. Doolittle Rd.
Edinburg, Texas 78541

RE: Mission Inlet Recertification Project – WA#5

Dear Mr. Sesan,

Attached for your review and execution are two unexecuted Work Authorization #5 to provide engineering services for the Mission Inlet Recertification Project. A detailed summary of the work to be completed included in the Exhibit “B” Scope of Services (Services to be Provided by the Engineer) section of this work authorization.

If you have any additional questions or comments regarding this work authorization please feel free to contact me at any time.

Respectfully Submitted,

David Saenz, P.E.
Project Manager – L&G Engineering

Attachments: (1) Mission Inlet Recertification Project – WA#5

cc: Mr. Jacinto Garza, P.E. – President/CEO - L&G Engineering

EXHIBIT "E"

**PROFESSIONAL ENGINEERING SERVICES CONTRACT # _____
WORK AUTHORIZATION FORM**

WORK AUTHORIZATION NO. 5

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. of the Agreement made by and between Hidalgo County Drainage District No. 1 hereinafter called the "Owner", and L&G Engineering, professional Engineers hereinafter called "Engineer".

PART 1. SCOPE OF WORK

**The purpose of this Work Authorization is for the Engineer to provide engineering services for the _____
Mission Inlet Recertification (See Attached "Exhibit B" for detailed "Scope of Services").**

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 \$1,287,482.53. This amount is based upon the costs outlined in the Estimated Cost Proposal attached hereto as EXHIBIT "D".

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Article/Part/Section 5/2 of the Agreement.

PART 4. FUNDING

**This Work Authorization No. 5 shall be funded through funding source:
Account No. _____
Requisition Number _____**

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.

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Jaime Salazar as to content and detail of this Work Authorization No. 5.

BY: _____

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by the Hidalgo County Drainage District No. 1 and L&G Engineering as indicated below and effective as of _____ day of _____, 2015.

THE ENGINEER:

THE OWNER:

Mr. Jacinto Garza, P.E.
President – L&G Engineering

Chairman of the Board
Hidalgo County Drainage District No. 1

**APPROVED AS TO FORM:
ATLAS, HALL, & RODRIGUEZ, LLP
BY:**

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**”.

The **OWNER** will provide to the **ENGINEER** the following:

- (1) Authorization to the **ENGINEER** to begin work in accordance with Section 3 of the Contract Agreement.
- (2) Payment for work performed by the **ENGINEER**, and accepted by the **OWNER** in accordance with Section 6 of the Agreement.
- (3) 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.
- (4) Provide any available relevant data the **OWNER** may have on file concerning the “**Project**”.
- (5) Provide timely review and decisions in response to the **ENGINEER’S** request for information and/or required submittals and deliverables, in order for the **ENGINEER** to maintain the agreed-upon work schedule prepared in accordance with Attachment “___” of this Agreement.
- (6) Attend and participate in progress meetings as required and as coordinated and conducted by the **ENGINEER**.
- (7) Assist the **ENGINEER** in the preparation of the “**Project**” mailing list; provide representation, a site and stenographer for all public meetings; additionally:

Public Meetings

- (a) Approve agenda and all exhibits prior to public meeting;
 - (b) Approve date and location of the meeting; and
 - (c) Review/approve Public Meeting Report
- (8) Attend the Preliminary Concept Conference coordinated and conducted by the **ENGINEER** and more particularly identified in Attachment “___” of the Agreement.
 - (9) Review and approve the “**Project**” design criteria.
 - (10) Review and approve change orders as required and prepared by the **ENGINEER**.

Exhibit “B”

Scope of Services

Services to be Provided by the Engineer

General Project Information

The **Engineer**, through this scope of services, shall provide Engineering Services required for PS&E of the Mission Inlet Recertification Project in Hidalgo County, TX, hereinafter denoted as the **Project**.

The **Engineer** shall provide all engineering services as noted under this scope of services for the **Owner**. The **Engineer** shall maintain a direct line of communication and coordinate with the **Owner** throughout the project.

The **Engineer** will furnish all equipment, materials, supplies, and incidentals as needed to perform the services required by this Work Authorization, except as otherwise specified in Exhibit A, “Services to be Provided by the **Owner**”.

Specific activities to be performed by the **Engineer** include the following:

1. PS&E Development

- A. The **Engineer** shall prepare contract drawings, specifications, and estimates for construction of the Project or portions of the Project as authorized by the **Owner**. These documents shall in all respects combine the application of sound engineering principles with a high degree of economy, and shall be submitted to the applicable City, County, State and/or Federal agencies for approval.
- B. All final plan sheets shall be developed, by the **Engineer**, on 11” x 17” reproducible, paper copies.
- C. Graphics files shall be developed by the **Engineer** in Microstation design file format, and must plot consistent with the reproducible plots submitted.
- D. **Plan Sheets:** Plan sheets developed by the **Engineer** shall include, but not limited to, title sheet, typical sections, sequence of construction, traffic control (as applicable), specification data (including schedules for minimum sampling and testing), estimate and quantity, plan & profile, channel details, roadway details (as applicable), bridge and culvert details, irrigation structure crossings, hydraulic details, and standards. (Standards may be used from governing entities, but must be signed and dated by the **Project Engineer** of responsible supervision as being applicable to the **Project**.)
- E. **Specifications:** Whenever possible, the **Engineer** shall use the Texas Department of Transportation’s 2014 Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges and/or County approved specifications. Other specifications may be developed by the **Engineer**, but must incorporate, to the extent possible, references to standard requirements of AASHTO design and AASHTO testing procedures.
- F. **Estimates:** The **Engineer** shall prepare detailed cost estimates and proposals of authorized construction, which shall include summaries of bid items and quantities based, insofar as practicable, on the unit price system of bidding. The **Engineer** shall not be required to guarantee the accuracy of those estimates.

2. Coordination and Management of Surveyor

The **Engineer** will provide coordination services with a proposed surveyor or surveying firm, hereinafter denoted as the **Surveyor**, to ensure all necessary details are surveyed / documented for the purposes of schematic generation and final PS&E design. Coordination will include various services including recovery and/or re-establishment of horizontal and vertical control and monumentation, field surveying, topographic surveying, ROW surveying and utility research and coordination (including utility coordination meetings if required). The **Engineer**, as a function of this task, will review final electronic data submitted (points files, topographic maps, utility location exhibits, ROW maps, etc.) and final submitted Field Books and Horizontal/Vertical Control Books. The **Engineer** will verify coordinate systems and datum(s) used are in accordance with project requirements and that all data provided is complete as required for final design.

3. SUB: Design Survey

See Exhibit “B-2” Services to be Provided by the Surveyor for details.

4. SUB: Geotechnical Engineering

See Exhibit “B-1” Services to be Provided by the Engineer for details.

5. Meetings & Coordination with HCDD#1, County, FEMA & IBWC

The **Engineer** will provide support services by way of coordination with Client and major entities (HCDD #1, Hidalgo County, FEMA, USIBWC) and any other pertinent parties. Support services will include (but may not be limited to) formal coordination (meetings and conference calls) and informal coordination (general e-mail correspondence, phone calls, informal meetings, etc.). Formal project status meetings will typically be held at least once a month (or other duration dependent on necessity of the **Project**.) Meetings may be held individually with each entity or may be combined entity meetings. Documentation of formal and informal coordination may be completed through meeting agendas, meeting minutes, monthly coordination logs and/or call logs.

6. Outreach/Presentations with Major Stakeholders (i.e. City of Mission, City of McAllen, McAllen Airport, etc.)

The **Engineer** will provide support services by way of outreach with and presentations to major project stakeholders (City of Mission, City of McAllen, McAllen Airport, etc.) and any other pertinent parties. Support services will include (but may not be limited to) formal coordination (meetings, conference calls, formal presentations) and informal coordination (general e-mail correspondence, phone calls, informal meetings, etc.). Formal project status meetings will typically be held at least once a month (or other duration dependent on necessity of the **Project**.) Meetings may be held individually with each entity or may be combined entity meetings. Documentation of formal and informal coordination may be completed through meeting agendas, meeting minutes, monthly coordination logs and/or call logs.

EXHIBIT “B-1”

Services to be Provided by the Laboratory

GENERAL SCOPE OF WORK

The work to be performed by the **Laboratory** under this Work Authorization shall consist of; Geotechnical Drilling and Miscellaneous Field Services, Geotechnical Laboratory Testing Services and Geotechnical Engineering Services for the Mission Inlet FEMA Re-Evaluation Project hereinafter denoted as the **Project**.

The **Laboratory** shall provide all services required (as noted under this Work Authorization) for usage by the **Engineer** in the preparation of plans, specification and estimate, and related documents for the **Project**. The **Laboratory** shall maintain a direct line of communication and coordinate with the **Engineer** throughout the project.

The **Laboratory** shall furnish all equipment, materials, supplies, and incidentals as needed to perform the services required, except as otherwise specified to be provided by the **Engineer**.

The **Laboratory** will develop/submit a work schedule that identifies milestone activities and/or deliverables, and that is conformable to the schedule outlined in **ATTACHMENT “C”**.

Specific activities to be performed by the **Laboratory** include the following:

I. Geotechnical Drilling Services and Miscellaneous Field Services

The **Laboratory** will coordinate with the **Engineer** for verification of project vicinity map indicating general boring site locations.

The **Laboratory** will provide drilling/excavation and sampling of subsurface materials as follows in accordance with this Work Authorization and in conformance with USIBWC, USACE TxDOT and ASTM guidelines:

Channel Borings – The **Laboratory** will drill Soil Borings to supplement the original study in the locations of modifications of original alignment for the Project to establish soil make-up, consistency and strength parameters (**Standard Penetration (SPT) Testing and Thin Walled Shelby Tube Sampling**) along the existing **Project** alignment and to define groundwater levels. Fourteen (14) Borings shall be drilled at throughout the project. Borings shall be advanced to a depth of approximately 30 to 50 feet below the existing top of natural ground at each location (2 Borings to 30 feet, 7 Borings to 35 feet, 2 Borings to 40 feet, 2 Borings to 45 feet, 1 Boring to 50 feet = **Total Drilling Depth = 490 feet**).

Levee Borings – The **Laboratory** will drill Soil Borings at the location of an existing Levee south of McAllen Airport and a Proposed Section of Levee for establishment of soil make-up, consistency and strength parameters (**Standard Penetration (SPT) Testing and Thin Walled Shelby Tube Sampling**) of the embankment sections. Borings shall be drilled atop the existing embankments/levees and at natural ground for proposed embankments/levees and shall be

Laboratory: L&G Engineering Laboratory, LLC

Engineer: L&G Consulting Engineers, Inc.

advanced to a depth of approximately 50 feet below top of natural ground at each location with every third to fourth boring being extended to approximately 100 feet below top of natural ground (for investigation of levee/embankment under-seepage) (4 Borings to 50 feet & 2 Borings to 100 feet = Total Drilling Depth = 400 feet).

The **Laboratory** will stake the boring locations and provide utility clearances prior to performing the field exploration portion of the project. The **Engineer** will be responsible to provide any necessary permits or authorization to access areas (right of entry) where borings are to be drilled. All borings will be located in the field by a representative of the **Laboratory**. All boring locations will be documented with GPS coordinates. Field survey and tie-down locations of all borings will be the responsibility of the **Engineer**.

The borings will be advanced to the specified depth(s) and in-situ soil testing will be performed in general accordance with ASTM and/or TxDOT Standard Test Procedures and Geotechnical Manual (ASTM D1586 – Standard Penetration Testing (SPT) and/or Tex-132-E – Texas Cone Penetration (TCP)). In addition, where applicable, thin-walled Shelby tube samples will be collected (ASTM D1587 – Thin Walled Tube Sampling). The soils will be sampled as needed to verify subsurface materials and strata changes. Final drilling depths and elevations will be based on topographic conditions at the time of drilling operations.

All samples will be removed from the sample apparatus during drilling operations. The **Laboratory** will conduct various field tests on the recovered samples, visually classify the samples, and record the appropriate data on a field boring log. The samples will be appropriately packaged to minimize loss of natural moisture content and to reduce the possibility of damage during transportation to the soil testing laboratory facility.

Drilling services will include an initial water strike depth and a 24-hour water level reading at each boring location. Following completion of drilling and sampling, all boreholes will be backfilled with soil cuttings from the completed borings. If there is insufficient soil cuttings available, alternate fill will be used to backfill the completed boreholes. Based on project scope, temporary piezometer wells may need to be installed at project locations for purposes of borehole integrity or subsurface water level monitoring. If a temporary piezometer is installed, the pipe will be removed following the monitoring operations and the hole will be backfilled as previously noted for standard boreholes.

This proposal does not include activities and corresponding costs that may be associated with the following:

- Providing an ATV mounted drill rig, dozer or special equipment to clear areas of vegetation and debris or to regrade the site to gain access to the boring locations;
- Re-grading the site or portions of the site after drilling activities are completed;
- Site safety meetings that may be required;
- Encountering hazardous or contaminated soils or substances during our field activities.

Laboratory: L&G Engineering Laboratory, LLC

Engineer: L&G Consulting Engineers, Inc.

The **Laboratory** will notify the **Engineer** should these services become necessary to complete field exploration activities, and if approved by the **Engineer**, additional negotiated fee and scope will be incorporated through Supplemental Work Authorization.

II. Geotechnical Laboratory Testing Services

Geotechnical Laboratory Testing will be performed by the **Laboratory** on the samples recovered during the field study to evaluate their physical and engineering properties. Laboratory testing will be performed in general accordance with ASTM and/or TxDOT Standard Test Procedures. Testing shall include the following test procedures:

- (1) Atterberg Limits (ASTM D4318 or Tex-104-E, 105-E, 106-E)
This procedure will be used to aid in the classifying of the soil and to provide information on the potential vertical rise and contraction of the soil. Test data furnished will include Liquid Limit, Plasticity Index, and Linear Shrinkage test results.
- (2) Gradation (-200) (ASTM D1140 or Tex-111-E)
This procedure will be used to aid in the classifying of the soil. A No. 200 sieve will be used to distinguish fine grained material as well as for cohesive soils.
- (3) Lab. Determination of Moisture in Soils (ASTM D2216 or Tex-103-E)
This procedure will aid in determining the in-situ moisture of the soil to be able to evaluate the potential vertical rise and contraction of the soil.
- (4) Particle Size (Sieve) Analysis with Hydrometer (ASTM D422)
This procedure will aid in determining the complete gradation (full gradation curve) of a soil sample including hydrometer for tail-end portion of gradation curve. Full gradation curve can be utilized to extract D50 and D90 soil particle diameters for use in scour analysis and prediction for foundation design.
- (5) Unconfined Compression (ASTM D2166)
This procedure determines the direct unconfined compressive strength of a soil of which can be correlated to shear strength of a soil sample (comparison with strength testing).
- (6) Consolidation Testing (ASTM D2435)
This procedure is utilized to predict the magnitude and potential rate of consolidation of soil in laboratory mimicked field conditions (laterally restrained and axially drained) while subjected to controlled stress loading increments.

III. Geotechnical Engineering Services

The **Laboratory** will utilize information gathered from the field and laboratory testing to provide the **Engineer** with Geotechnical Engineering results and analyses for the **Project**. The findings and conclusions derived from the results and analyses will be presented in a written engineering technical memorandum and provided to the **Engineer** (three (3) copies). The report will include a boring location plan, boring logs with laboratory classification of recovered soil samples at the boring locations and subsurface water conditions encountered. The report will provide analyses and/or engineering recommendations as follows:

Laboratory: L&G Engineering Laboratory, LLC

Engineer: L&G Consulting Engineers, Inc.

For Channel Borings:

- Classification of Soil Strata for Boring Logs and Evaluation of Water Table
 - Laboratory classification testing and inspection of the soil samples will be reviewed by a Geotechnical Engineer to provide soil classification for engineering purposes in accordance with ASTM D2487 (United Soil Classification System – USCS). In addition, the results of the field measured water strike information will be compiled and modeled for each boring (and the reach as a whole).
- Strength Parameters and Structural Evaluation of Soil Borings
 - A detailed structural evaluation of the borings will be done so that soil strength parameters can be quantified for usage in overall global stability calculations and estimation of consistency of in-situ strata.
- Soil Slope Stability Analysis (GSTABL) for Channel
 - A geometric model will be constructed for each of the proposed cross-sections (major cross sections) to ensure accurate modeling of the proposed configuration. A limit equilibrium slope stability analysis will be conducted for each of the locations to ensure adequate factors of safety.
- Soil Scourability and Establishment of D50-D90 Values
 - Results of full sieve and hydrometer analyses and soil classifications will be used to provide soil scour parameters for use in Scour Analysis at structure locations. Determination of extent of scour will be of importance at locations of structure foundations.

For Levee Borings:

- Classification of Soil Strata for Boring Logs and Evaluation of Water Table
 - Laboratory classification testing and inspection of the soil samples will be reviewed by a Geotechnical Engineer to provide soil classification for engineering purposes in accordance with ASTM D2487 (United Soil Classification System – USCS). In addition, the results of the field measured water strike information will be compiled and modeled for each boring (and the reach as a whole).
- Strength Parameters and Structural Evaluation of Soil Borings
 - A detailed structural evaluation of the borings will be done so that soil strength parameters can be quantified for usage in overall global stability calculations and estimation of consistency of in-situ strata.
- Geotechnical Analyses of Embankments and Levees (Multiple Analyses)
 - The **Laboratory** will provide all geotechnical analyses required by IBWC and USACE guidelines and manuals including analysis of bearing capacity, settlement, slope stability (global stability – interior and exterior slopes using GSTABL software program), through seepage and under-seepage (in accordance with levee seepage calculations from USACE). All embankments will be verified for compliance with requirements of IBWC and USACE guidelines to ensure successful certification of Levees (and safety of embankment protection sections).

Laboratory: L&G Engineering Laboratory, LLC

Engineer: L&G Consulting Engineers, Inc.

The technical memorandum will provide general comments and applicable recommendations regarding construction methods, sequences, and potential difficulties that may arise during overall construction as it relates to the soil aspects of this project. This information may serve to guide foundation selection and design and assist in the preparation of specifications for the project.

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

SECTION 1-PROJECT DESCRIPTION

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services for the following described facility:

COUNTY/CITY: Hidalgo County

CONTROL: _____

PROJECT/DESCRIPTION: Mission Inlet

LENGTH: 0.43 Miles

HIGHWAY: _____

LIMITS: River Bend Rd. to USIBWC Main Floodway

PROJECT CLASSIFICATION

(Place an "X" in only one Project Classification)

- Surface Treatment
- Overlay
- Rehabilitation Existing Road (Scarify & Reshape)
- Convert Non-Freeway to Freeway
- Widen Freeway
- Widen Non-Freeway
- New Location Toll Freeway
- New Location Non-Freeway
- Interchange (New or Reconstruct)
- Bridge Widening or Rehabilitation
- Bridge Replacement
- Upgrade to Standards - Freeway
- Upgrade to Standards - Non-Freeway
- Drainage Design

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

COUNTY shall mean Hidalgo County.

SURVEYOR shall mean ROW Surveying Services.

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

SECTION 6 - FIELD SURVEYING AND PHOTOGRAMMETRY
(Function Code 150)

Services
Provided By:
SURVEYOR CITY/COUNTY

DESIGN AND CONSTRUCTION SURVEYS:

PURPOSE:

The purpose of a "design survey" is to provide field information in support of transportation systems design.

The purpose of a "construction survey" is to provide field data in support of highway construction.

DEFINITIONS:

A "design survey" is defined as the combined performance of research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3-dimensional) mapping of a project site. A design survey may include, but need not be limited to, cross-sections or data to create cross-sections and Digital Terrain Models (DTM), horizontal and vertical location of utilities and improvements, detailing of bridges and other structures, review of right-of-way maps, establishing control points, etc.

A "construction survey" is defined as the combined performance of reconnaissance, field work, analysis, computation, and documentation necessary to provide the horizontal and vertical position of specific ground points to be used by the construction contractor for determining lines and grades.

- | | | |
|------------|------------|--|
| <u>NO</u> | <u>N/A</u> | <p>1. Design Surveying</p> <p>a. Primary Project Control – 3 to 5 miles spacing
Precision shall be 1 part in 20,000 or better, unless otherwise directed by the District Engineer.</p> <ul style="list-style-type: none">(1) Establish horizontal control points(2) Establish vertical control points <p>NOTE: ALL BEARING AND DISTANCE SHALL BE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 1983, SOUTH ZONE. ALL DISTANCES AND COORDINATES SHALL BE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999960</p> |
| <u>YES</u> | <u>N/A</u> | <p>b. Secondary Project Control – Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Control Data Sheets for inclusion in the Construction Project Plans signed and sealed by an R.P.L.S.</p> <ul style="list-style-type: none">(1) No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer.(2) The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.(3) The unadjusted ratio of precision should be one part in 10,000 or better. (The ratio of precision is the total length of the traverse divided by the total error.)(4) The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.(5) Project control base lines |
| <u>N/A</u> | <u>N/A</u> | <ul style="list-style-type: none">(6) Photogrammetric ground control<ul style="list-style-type: none">(a) Establish horizontal control(b) Establish vertical control points(c) Place and maintain control point targets |

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
Provided By:
SURVEYOR CITY/COUNTY

YES N/A

c. Other Design Surveying

- (1) **The limit of the Design surveys shall be 500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set H&V Control at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each H&V Control. Provide an H&V Control along each outfall identified on the Hydrologic Map. The H&V Control shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Control Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03’/ft per mile error vertically.
- (2) Complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.
- (3) Locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.
- (4) Field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).
- (5) Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.
- (6) The Surveyor shall stake the proposed centerline on the existing fields as approved by Engineer before construction for the purpose of utility adjustments and project location.
- (7) Profile and cross section intersecting streets for ties into project (500-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street). Reference missing voids as per CD provided by the Engineer.
- (8) Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtances as identified by the engineer sample layout “EXHIBIT E”. The SURVEYOR will meet with the ENGINEER before he ties down any irrigation lines. Jointly the SURVEYOR and the ENGINEER will identify from records such as the Irrigation District Maps and the A&M Data of existing irrigation lines that will need to be tied down. The SURVEYOR will follow the sample given to him by the ENGINEER and tie the structures horizontally and vertically and include in the field books to be submitted.
- (9) Tie Horizontally and Vertically the existing storm drain system that lies within the existing proposed ROW including the elevation of the outfall of said recovered existing storm drain systems.
- (10) Tie to existing underground and overhead utilities (location, elevation and direction)

Horizontally – The surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down.

Vertically – The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
 Provided By:
SURVEYOR CITY/COUNTY

- | | | |
|------------|------------|--|
| <u>YES</u> | <u>N/A</u> | (11) Cross section and profile all outfall channels identified on the Hydrologic Map for a distance of 200-ft beyond the proposed ROW upstream and downstream at 100-ft intervals. The SURVEYOR will provide a complete 2D/3D File including utilities of the outfalls identified. |
| | | (12) Driveways and Turnouts |
| | | (a) Inventory commercial entrances, public roads and side streets separately. |
| | | (b) Obtain centerline station. (Width at ROW, PAV'T and existing radius. |
| | | (c) Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes. |
| | | (d) Obtain width at R.O.W. line. |
| | | (e) Obtain elevations at both edges of the driveway or turnout in line with the side drain. |
| <u>NO</u> | <u>N/A</u> | (13) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map) |
| <u>NO</u> | <u>N/A</u> | (14) Soil core hole staking at bridge class structures. |
| <u>NO</u> | <u>N/A</u> | (15) Determine changes in topography from voids and outdated maps due to development, erosion, etc. |
| <u>YES</u> | <u>N/A</u> | (16) Profiles of existing drainage facilities. |
| <u>YES</u> | <u>N/A</u> | (17) Measurement of hydraulic opening under existing bridges. |
| <u>YES</u> | <u>N/A</u> | (18) Obtain elevations of manholes and valves of utilities |
| <u>YES</u> | <u>N/A</u> | (19) Provide temporary signs, traffic control, flags, safety equipment, etc. |
| <u>YES</u> | <u>N/A</u> | (20) Ties to existing bridges railroad rail elevations or culverts that may conflict with new construction. |
| <u>YES</u> | <u>N/A</u> | (21) Bridge widening top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations. |
| <u>YES</u> | <u>N/A</u> | (22) Inventory signs, mailboxes, and driveways |
| <u>NO</u> | <u>N/A</u> | (23) Locate wetlands. |
| <u>YES</u> | <u>N/A</u> | (24) Locate existing right-of-ways. |

d. Construction Surveys:

In performing construction surveys, the following will be requested by the ENGINEER on an as needed basis, but need not be limited to:

- | | | |
|------------|-----------|--|
| <u>N/A</u> | <u>NO</u> | (1) Stake existing and/or proposed right-of-ways. |
| <u>N/A</u> | <u>NO</u> | (2) Stake existing and/or proposed baseline/centerline. |
| <u>N/A</u> | <u>NO</u> | (3) Stake proposed bridge structures. |
| <u>N/A</u> | <u>NO</u> | (4) Stake proposed drainage structures, such as manholes, culverts, etc. |
| <u>N/A</u> | <u>NO</u> | (5) Set grade stakes. |
| <u>N/A</u> | <u>NO</u> | (6) Recover and check existing control points. |
| <u>N/A</u> | <u>NO</u> | (7) Establish additional control points. |
| <u>N/A</u> | <u>NO</u> | (8) Check elevations and locations of structures. |
| <u>N/A</u> | <u>NO</u> | (9) Determine and resolve conflicts associated with survey data. |

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
 Provided By:
SURVEYOR CITY/COUNTY

- | | | |
|------------|------------|--|
| <u>N/A</u> | <u>N/A</u> | <p>2. Photogrammetric Products</p> <p>a. Uncontrolled Photography</p> <p style="padding-left: 20px;">(1) Contact Prints</p> <p style="padding-left: 20px;">(2) Mosaics</p> <p style="padding-left: 20px;">(3) Digital ortho plots</p> <p>b. Mapping</p> <p style="padding-left: 20px;">(1) Planimetric Maps</p> <p style="padding-left: 20px;">(2) Contour Maps</p> <p style="padding-left: 20px;">(3) Cross Sections</p> <p style="padding-left: 20px;">(4) Profiles</p> <p style="padding-left: 20px;">(5) Digital Terrain Models (DTM)</p> |
| | | <p>3. <u>UTILITY SUBSURFACE INVESTIGATION:</u>
 <u>Utility Quality Levels</u> are in cumulative order (least to greatest) as follows</p> |
| <u>YES</u> | <u>N/A</u> | <p>3.1. Quality Level C - Existing Records: Utilities are plotted from review of available existing records that will be generated by the Engineer on the schematic and provided to the surveyor for his further creation of a Utility Map which will be turned in as a deliverable as part of this work order.</p> |
| <u>YES</u> | <u>N/A</u> | <p>3.2. Quality Level B - Surface Visible Feature Survey: The Surveyor shall gather the field tied Utility Information and compare it to the existing records (if any) as provided by the Engineer and correlate with surveyed surface-visible features. The surveyor shall create a Utility Layout Map or plan layout 2D, showing the limits of the proposed project and limits of the work area required for this work authorization; including highway stations, limits within existing or proposed right of way. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Layout Map will include all utilities that have been field tied – 2D Horizontal Utilities. This Layout will be provided to the Engineer and a meeting held with Engineer to identify which utilities will need to be tied down vertically. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above ground appurtenance locations must be included in the deliverable to the Engineer. This information will be provided in the latest version of Micro Station or Geopak used by the State. The electronic file will be delivered on C.D. or DVD. A hard copy is required and must be signed, sealed, and dated by the Surveyor. Note: Determine and inform the Engineer of the approximate utility depths at critical locations. This depth indication is understood by the Engineer to be approximate only and is not intended to be used for preparing the construction plans.</p> |
| <u>YES</u> | <u>N/A</u> | <p>3.3. <u>Subsurface Utility Locate (Test Hole) Service (Quality Level A).</u> THE SURVEYOR SHALL ESTIMATE LOCATING VERICALLY 25 UTILITES PER MILE OR AS IDENTIFIED BY THE ENGINEER. Locate shall mean to obtain precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B and C. The Surveyor shall:</p> <p>3.3.1 Review the requested test hole locations that have been identified by the Engineer and Coordinate with utility owner inspectors as may be required by law or utility owner policy.</p> |

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
 Provided By:
SURVEYOR CITY/COUNTY

3. *Utility Subsurface (continued)*
- 3.3.2 Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
- Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
 - Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
 - Elevation of existing grade over utility at test hole location.
 - Horizontal location referenced to project coordinate datum.
 - Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
 - Utility facility material(s).
 - Utility facility condition.
 - Coating/Wrapping information and condition.
 - Unusual circumstances or field conditions.
- 3.3.3 Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the appropriate State District Office.
- 3.3.4 Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The Engineer shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.
- 3.3.5 Provide complete restoration of work site and landscape to equal or better condition than before excavation.
- 3.3.6 Plot utility location position information on the Utility Layout sheet and identify the vertical elevation and sealed by the responsible Surveyor. This information will be provided in the latest version of Micro Station or Geopak format used by the State. The electronic file will be delivered on C.D or DVD.

4. DELIVERABLES:

The deliverables to be specified in individual work authorizations for design surveys and construction surveys may be any combination of the following:

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|---|---|---|
| <p><u>YES</u></p> <p><u>YES</u></p>
<p><u>YES</u></p> <p><u>YES</u></p> <p><u>YES</u></p>
<p><u>YES</u></p> <p><u>YES</u></p> | <p><u>N/A</u></p> <p><u>N/A</u></p>
<p><u>N/A</u></p> <p><u>N/A</u></p> <p><u>N/A</u></p>
<p><u>N/A</u></p> <p><u>N/A</u></p> | <p>4.1. Digital Terrain Models (DTM) in a format acceptable by the ENGINEER.</p> <p>4.2. Final H&V Field Book Binder with all pertinent information obtained in the field for Design Surveys. Maps, plans, or sketches prepared by the SURVEYOR showing the results of field surveys.</p> <p>4.3. Computer printouts or other tabulations summarizing the results of field surveys.</p> <p>4.4. Digital files or media acceptable by the ENGINEER containing field survey data.</p> <p>4.5. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.</p> <p>4.6. Field survey notes, as electronic and/or hard copies.</p> <p>4.7. A H&V Control Book identifying the basis of the Primary and Secondary Control and an 8 ½ inch by 11 inch survey control data sheet for each construction control point which shall include, but need not be limited to, a location sketch, a physical description of the point including a minimum of two reference ties, surface coordinates, a surface adjustment factor, elevation, and the horizontal and vertical datums used. Survey control data sheets shall be signed and sealed by the supervising Registered Professional Land Surveyor.</p> |
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EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
 Provided By:
SURVEYOR CITY/COUNTY

4. *Deliverables (continued)*

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| <u>NO</u> | <u>NO</u> | 4.8. Final mylar set of 11 inch by 17 inch Survey Control data sheets sign and seal by the RPLS per TxDOT guidelines. |
| <u>YES</u> | <u>NO</u> | 4.9. A digital and/or hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, data including property descriptions with field notes and plats, right-of-way maps, and survey control data sheets to include in the H&V Field Book Binder. |
| <u>YES</u> | <u>NO</u> | 4.10. Survey reports in a format requested by the ENGINEER. |
| <u>YES</u> | <u>NO</u> | 4.11. Items indicated under the Automation Requirements Section 6. |

5. GENERAL REQUIREMENTS:

- 5.1. Design surveys and construction surveys shall be performed under the supervision of a Registered Professional Land Surveyor currently registered with the Texas Board of Professional Land Surveying.
- 5.2. Horizontal ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the STATE.
- 5.3. Reference may be made to standards of accuracy for horizontal control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
- 5.4. Vertical ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the ENGINEER.
- 5.5. Reference may be made to standards of accuracy for vertical control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
- 5.6. Side shots or short traverse procedures used to determine horizontal and vertical locations shall meet the following criteria:
 - Side shots or short traverses shall begin and end on horizontal and vertical ground control as described above.
 - Standards, procedures, and equipment used shall be such that horizontal locations relative to the control may be reported within the following limits:
 - Bridges and other roadway structures: less than 0.1 of one foot.
 - Utilities and improvements: less than 0.2 of one foot.
 - Cross-sections and profiles: less than 1 foot.
 - Bore holes: less than 3 feet.
 - Standards, procedures, and equipment used shall be such that vertical locations relative to the control may be reported within the following limits:
 - Bridges and other roadway structures: less than 0.02 of one foot.
 - Utilities and improvements: less than 0.1 of one foot.
 - Cross-sections and profiles: less than 0.2 of one foot.
 - Bore holes: less than 0.5 of one foot.

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
Provided By:
SURVEYOR CITY/COUNTY

6. **AUTOMATION REQUIREMENTS:**

- 6.1 Planimetric design files (DGN) shall be fully compatible with the State's *Micro Station V8* graphics program without further modification or conversion.
- 6.2 Electronically collected and processed field survey data files shall be fully compatible with the State's *CADD* systems without further modification or conversion. All files shall incorporate only those feature codes currently being used by the STATE.
- 6.3 Digital Terrain Models (DTM) shall be fully compatible with the STATE's *GEOPAK* system without further modification or conversion. All DTM files shall be fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

ADDITIONAL RESPONSIBILITIES

A. TRAFFIC CONTROL:

The SURVEYOR shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI and the latest edition of the Occupational Safety Manual both of which can be found on the TxDOT internet site.

In the event field crew personnel must divert traffic or close traveled lanes, a Traffic Control Plan based upon principles outlined in the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the SURVEYOR and approved by the ENGINEER prior to commencement of field work. A copy of the approved plan shall be in the possession of field crew personnel on the job site at all times and shall be made available to the ENGINEER for inspection upon request.

B. INVOICING:

Payment requests shall include a SURVEYOR’s invoice. With each payment request, the SURVEYOR shall submit a project status report which will, as a minimum, include the percentage of total work complete as of the date of the payment request and a description of current work activity. The percentage of total work complete shall not be based simply on the percentage of funds expended, but shall be based on the best judgment of the SURVEYOR as to the percentage of actual work complete.

C. EASEMENTS, LETTERS OF PERMISSION, ETC.

The SURVEYOR shall be responsible for delineating easements. The SURVEYOR will be responsible for securing the necessary legal instruments and obtaining all Right-of-Entries (ROEs).

D. MEETINGS:

The ENGINEER shall setup the necessary meetings with the SURVEYOR in order to assure all field information is provided on-time and products are delivered in accordance with TxDOT’s specifications. SURVEYOR must attend all meetings involving data provided if requested by ENGINEER.

E. PROJECT MANAGER/SURVEYOR COMMUNICATION:

The SURVEYOR shall designate one Texas Registered Professional Land Surveyor (RPLS) to be responsible throughout the project for project surveying coordination and all communications, including billing, with the ENGINEER.

F. OFFICE LOCATION:

The SURVEYOR will perform the services to be provided under this agreement out of a local office and have a crew available to perform requested tasks within 24 hours of request. The coordinating SURVEYOR’s Project Manager (RPLS) shall be accessible at all times and working from the local office.

**Exhibit D-1
Estimated Cost Proposal**



Geotechnical Engineering & Report

L&G ENGINEERING LABORATORY

<i>Mission Inlet FEMA Re-Evaluation Project - Addl. Geo for PS&E L&G Consulting Engineers, Inc.</i>		MANHOURS					Total
		Senior Project Manager	Senior Geotechnical Engineer	Geotechnical Engineer	CADD Tech	Admin/Clerical	
TASK							
Geotechnical Analysis of Proposed Channel (100 Year Str) (Division I)							
1	Develop Plan View of Boring Logs, Location Scheme, Graphic Files			2	2		4
2	Classification of Soil Strata and Water Table Database (Investigate Trending)			4			4
3	Structural Evaluation of Borings (Soil Strength & Compress Analysis)		2	8			10
4	Soil Slope Stability Analysis (GSTABL) for Channel (Division I)		2	12	2		16
5	Soil Scourability (D50-D90 Value Establish, Trend) (Division I)		2	4			6
6	Channel Recommendations - Potential Geometry, Geotechnical Issues, Limits	2	2	8			12
Geotechnical Analyses of Embankments & Levees							
7	Develop Plan View of Boring Logs, Location Scheme, Graphic Files			2	2		4
8	Classification of Soil Strata and Water Table Database (Investigate Trending)			4			4
9	Structural Evaluation of Borings (Soil Strength & Compress Analysis)		2	8			10
10	Analysis of Allowable Bearing Capacity of Each Levee/Embank		4	12			16
11	Analysis of Settlement of Each Levee/Embank		4	12			16
12	Analysis of Under-Seepage and Through-Seepage (prev. of water migration)		4	16			20
13	Analysis of Global Soil Slope Stability (GSTABL)		4	16	2		22
14	Embankment/Levee Recommendations - Individual Site-Specific	2	2	8			12
15	Geotechnical Tech. Memo. (Soil Geology, Soils, All Analyses, Recs.)	8	16	40	16	16	96
16	Meeting and Coordination	8	8	8		8	32
Subtotal		20	52	164	24	24	284
Labor Hours		20	52	164	24	24	284
Hourly Base Rates		\$ 68.00	\$ 56.00	\$ 39.00	\$ 21.00	\$ 18.00	
Direct Salary Cost		\$ 1,360.00	\$ 2,912.00	\$ 6,396.00	\$ 504.00	\$ 432.00	
Contract Rate w/ Aud. OH Rate 217.19% & 12% Profit = Adjusted to FY 2015		\$ 256.10	\$ 210.91	\$ 146.88	\$ 79.09	\$ 67.79	
Total Labor Costs		\$ 5,122.00	\$ 10,967.32	\$ 24,088.32	\$ 1,898.16	\$ 1,626.96	\$ 43,702.76

LINE ITEM EXPENSES

Printing Reproduction	\$ 150.00
Geotechnical Field and Laboratory Services (Please see page 2 for detailed estimate of services)	\$ 66,353.28
Total Expenses	\$ 66,503.28

L&G Laboratory Total Cost

\$ 110,206.04

Exhibit D-1
Estimated Cost Proposal
Geotechnical Field and Laboratory Services
Mission Inlet FEMA Re-Evaluation - Addl. Geo for PS&E
Prepared for L&G Consulting Engineers, Inc.

	SERVICES	UNITS	# of UNITS	UNIT COST	TOTAL COST
I.	Project Management / Review				
	A. Principal / Project Manager / Review	Hours			
	B. Project Engineer (Staff - Oversight)	Hours	7	\$ 146.88	\$ 1,028.16
	C. Typing and Clerical (Report)	Hours			
	D. Lodging	Day			
	E. Mileage	Mile			
	F. Air Travel	Trip			
II.	Utility Clearances / Boring Locates				
	A. Technician (Locate Borings)(Util Clr)	Hours	8	\$ 60.26	\$ 482.08
	B. Staff Engineer/Geologist/Scientist	Hours			
	C. Rebar (stakes with impalement covers)	Cost +12.5%			
	D. Vehicle Charge	Mile			
	E. Mileage	Mile	60	\$ 0.55	\$ 33.00
	F. Survey Locate Borings (X,Y,Z)	LS			\$ -
III.	Field Exploration				
A	Mobilization/Demobilization	Day	13	\$ 250.00	\$ 3,250.00
B	Field Exploration				
	1a. ASTM Drill & SPT/Tube Sampling (SS)	Feet	500	\$ 18.00	\$ 9,000.00
	1b. ASTM Drill & SPT/Tube Sampling (Mud)	Feet	390	\$ 27.00	\$ 10,530.00
	2. TxDOT Drilling (TCP)	Ea.			\$ -
	3. Field Logger / Engineering Tech	Hour	130	\$ 60.26	\$ 7,833.80
	4. 24 Hr. Water Level Observations	Hour	4	\$ 60.26	\$ 241.04
	5. Piezometers	Each			\$ -
	6. Supp. Vehicle-Trailer, Tools Water Supply	Mile	780	\$ 2.00	\$ 1,560.00
	7. Vehicle Charge	Mile	840	\$ 0.55	\$ 462.00
C	Miscellaneous Field Services				
IV.	Engineering Data Analysis / Report				
	1. Staff Engineer	Hours			
	2. Geo Engineer (Soil Classification)	Hours	20	\$ 146.88	\$ 2,937.60
	3. Geo Engineer (Logs & Summaries)	Hours	20	\$ 146.88	\$ 2,937.60
	4. Moisture Content	Ea.	178	\$ 8.50	\$ 1,513.00
	5. Atterberg Limits	Ea.	89	\$ 65.00	\$ 5,785.00
	6. -200 Determination	Ea.	89	\$ 60.00	\$ 5,340.00
	7. Sieve Analysis (w/ Hydrometers)	Ea.	22	\$ 85.00	\$ 1,870.00
	8. UC Testing (w/ Unit Weight)	Ea.	22	\$ 50.00	\$ 1,100.00
	9. Consolidation Testing	Ea.	22	\$ 475.00	\$ 10,450.00
	10. Dry Unit Weight	Ea.			\$ -
	11. Soils Sulfate Content (Bridge/Culv.)	Ea.		\$ 95.00	\$ -
	12. Determination of Soil pH	Ea.		\$ 70.00	\$ -
	Project Total				\$ 66,353.28

Exhibit "D-2"
BUDGET
LUMP SUM RATE BASIS OF PAYMENT

Work Authorization No. _____

A	B	C	D	E	F	G	H	I	J		
1	Project: Mission Inlet										
2	County: Hidalgo County, Texas										
3	From: River Bend Drive To: USIBWC Main Floodway										
4	Description of Work: Full Design Survey at Specified Areas										
5											
6	TASK AND DESCRIPTION			Survey	Survey	4-man	3-man	2-man	Admin/	Total	Cost
7	FC 150 Field Surveying			PM	RPLS	Technician	Survey Crew	Survey Crew	Survey Crew	Clerical	Hours
8	HOURLY RATE			\$124.00	\$125.00	\$82.00	\$175.00	\$155.00	\$130.00	\$50.00	
9	PHASE 1 - FC 150 Field Surveying (Control Hz & Vt)										
10	A. Primary Project Control										
11	a. Establish Primary Control	0	0	0	0	0	0	0	0	0	\$ -
12	B. Secondary Project Control										
13	a. Set additional secondary control points as needed	0	1	6	0	6	0	0	13	\$	1,547.00
14	b. Horizontal values established with RTK or VRS	0	1	6	0	4	0	0	11	\$	1,237.00
15	c. Vertical values established with digital level	0	1	2	0	0	20	0	23	\$	2,889.00
16	Subtotal Hours	0	3	14	0	10	20	0	47		
17	Subtotal Cost - Phase 1	\$0.00	\$375.00	\$1,148.00	\$0.00	\$1,550.00	\$2,600.00	\$0.00		\$	5,673.00
18	PHASE 2 - DTM Topography and Cross sections (Total Length including side streets, Drain, and Irrigation Crossings=0.43 miles)										
19	C. Setting Benchmarks										
20	1. Setting Benchmarks @ 1000'(ft) intervals	0	0	0	0	0	0	0	0	\$	-
21	2. Topographic & Crossections	0	2	8	0	30	0	0	40	\$	5,556.00
22	3. Locate Visible Utilities	0	0	8	0	10	0	0	18	\$	2,206.00
23	a. Utilities	0	0	4	0	6	0	0	10	\$	1,258.00
24	4. Cross Culverts, Driveway Culverts, Inverts	0	0	4	0	6	0	0	10	\$	1,258.00
25	5. Right of Entry, ROW Research, Appraisal Dist. Records	0	1	2	0	0	0	5	8	\$	539.00
26	6. Proposed Centerline on Existing Pavement Pre-Construction for Utilities	0	1	1	0	6	0	0	8	\$	1,137.00
27	7. Profile and Cross section Intersecting Streets	0	0	35	0	30	0	0	65	\$	7,520.00
28	8. Irrigation Crossings	0	1	5	0	8	0	0	14	\$	1,775.00
29	9. Existing Storm Drain H&V	0	0	2	0	4	0	0	6	\$	784.00
30	10. Tie Existing Underground and Overhead Utilities Coordinate with Engineer (No SUE)	1	1	0	0	5	0	0	7	\$	1,024.00
31	11. Additional Field Surveying										
32	a. Irrigation Lines	1	1	6	0	8	0	0	16	\$	1,981.00
33	b. Outfalls	1	1	6	0	8	0	0	16	\$	1,981.00
34	c. Driveways and Turnouts	0	0	6	0	4	0	0	10	\$	1,112.00
35	15. Profiles of Existing Drainage Facilities	0	0	4	0	5	0	0	9	\$	1,103.00
36	17. Obtain Elevations of Manholes and Valves of Utilities	0	0	6	0	5	0	0	11	\$	1,267.00
37	18. Provide temp. signs, traffic control, flags, safety equip. etc.	0	0	0	0	5	0	0	5	\$	775.00
38	19. Ties to Existing Bridges or Culverts that may be in conflict with new construction	0	0	0	0	0	0	0	0	\$	-
39	21. Inventory Signs, mailboxes, and driveways	0	0	6	0	5	0	0	11	\$	1,267.00
40	22. Survey Control Data Sheets per TxDOT	0	6	8	0	0	0	0	14	\$	1,406.00
41	23. Recover and Establish Existing CL and ROW	0	3	4	0	5	0	0	12	\$	1,478.00
42	24. Coordinate with the Engineer for Existing CL Stationing	1	1	0	0	0	0	0	2	\$	249.00
43	Subtotal Hours	4	18	115	0	150	0	5	292		
44	Subtotal Cost - Phase 2	\$496.00	\$2,250.00	\$9,430.00	\$0.00	\$23,250.00	\$0.00	\$250.00		\$	35,676.00
45	PHASE 3 - FINAL REPORT & DELIVERABLES										
46	A. CADD file (2D & 3D) for limits of project	0	0	20	0	0	0	2	22	\$	1,740.00
47	B. Final Report and Deliverables	1	6	20	0	0	0	2	29	\$	2,614.00
48	Subtotal Hours	1	6	40	0	0	0	4	51		
49	Subtotal Cost - Phase 3	\$124.00	\$750.00	\$3,280.00	\$0.00	\$0.00	\$0.00	\$200.00		\$	4,354.00
50	PROJECT MANAGEMENT & OVERSIGHT										
51	A. Meeting & Coordination w/ Engineers	6	5	0	0	0	0	2	13	\$	1,469.00
52	B. QC/QA Survey	12	10	0	0	0	0	2	24	\$	2,838.00
53	Subtotal Hours	18	15	0	0	0	0	4	64		
54	Subtotal Cost - PM & Oversight	\$2,232.00	\$1,875.00	\$0.00	\$0.00	\$0.00	\$0.00	\$200.00		\$	4,307.00
55	Total Fee FC 150	\$2,852.00	\$5,250.00	\$13,858.00	\$0.00	\$24,800.00	\$2,600.00	\$650.00	454	\$	50,010.00
56											

AI -52655

10.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Jaime Salazar

Submitted By: Jaime Salazar, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 BOND SERIES

Requesting approval of Work Authorization No. 20 to Pct. 1 2012 Bond Referendum agreement with TEDSI Infrastructure in the amount of \$68,794.30 as it relates to Preliminary Engineering Report for Old River Road Area.

BACKGROUND

Fiscal Impact

Attachments

WA NO. 20

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 10:23 AM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Jaime Salazar		Started On: 12/11/2015 10:13 AM
Final Approval Date: 12/11/2015		

EXHIBIT “E”

**PROFESSIONAL ENGINEERING SERVICES CONTRACT #
Pct. 1 2012 Bond Referendum Professional Agreement
approved on April 9, 2013**

WORK AUTHORIZATION FORM

WORK AUTHORIZATION NO. 20

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. of the Agreement made by and between HIDALGO COUNTY DRAINAGE DISTRICT NO. 1 hereinafter called the “Owner”, and TEDSI Infrastructure Group, Inc., professional Engineers hereinafter called “Engineer”.

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the Engineer to provide Preliminary Engineering Report for Old River Road Area

The scope of services to be provided by the Engineer is identified in Work Authorization No. 20, EXHIBIT “B” – Scope of Services to be Provided by the Engineer attached hereto.

PART 2. ESTIMATED COST

The lump sum amount for services under this Work Authorization No. 20 is \$68,794.30. This amount is based upon the attached Work Authorization No. 20, Exhibit D. A supplemental agreement shall be executed by both parties should additional funds be needed to complete these tasks.

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Article/Part/Section 5, 6 and 7 of the Agreement.

PART 4. FUNDING

This Work Authorization No. 20 shall be funded through funding source:

Account No. _____

Requisition Number _____

PART 5. PERIOD OF SERVICE

This Work Authorization No. 20 shall become effective on the date of final acceptance of the parties hereto, and terminate upon completion of scopes work tasks of the work authorization.

PART 6. RESPONSIBILITIES AND OBLIGATIONS

This Work Authorization No. 20 does not waive the parties' responsibilities and obligations provided under the Agreement, except the scope of work, Exhibit B, will be limited to the work as shown in Exhibit B of Work Authorization No. 20.

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Hidalgo County Drainage District No. 1. as to content and detail of this Work Authorization No. 20.

BY: _____
Jaime Salazar, Buyer

PART 8. ACCEPTANCE AND APPROVAL

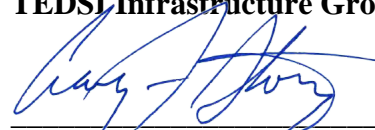
This Work Authorization is hereby accepted, approved by the Hidalgo County Drainage District No. 1 and TEDSI Infrastructure Group, Inc. as indicated below and effective as of _____ day of _____, 2015.

THE ENGINEER:

THE OWNER:

TEDSI Infrastructure Group, Inc

Hidalgo County Drainage District No. 1



By: Craig F. Stong, Vice President

By: Ramon Garcia, Chairman

Attest as to form:
Atlas, Hall & Rodriguez, L.L.P.

By: Stephen L. Crain

Attachments: Work Authorization No. 20, EXHIBIT "B" - Scope of Service
Work Authorization No. 20, EXHIBIT "D" - Estimated Cost Proposal

Work Authorization No. 20

Exhibit "B"

Scope of Services

Old River Road Flooding Investigation

Contract No. Pct. 1 2012 Bond Referendum Professional Agreement Approved on April 9, 2013

Old River Road Scope of work

The purpose of the scope of work is to investigate a Preliminary Engineering Report recommending the needed improvements associated with the flooding of adjoining properties and roadway along the Old River Road from Ponciano St to Calle Chaparral.

I. Engineering Management

- A) Preliminary Project Planning and Development (Basic Services Only)
- B) Preliminary Engineering (Basic Services Only)
- C) Not Included:
 - 1) Final Design
 - 2) Construction Management

II. Preliminary Project Planning and Development (Not Included)

III. Preliminary Engineering, Final Design & Construction

- A) Preliminary Engineering
 - 1) Preliminary Field Surveying (Special Services)
 - a) Obtain flowline, size and type of pipe culverts into and in the canal.
 - b) Obtain channel cross section at crossing of the canal that form obstruction to the flow.
 - c) Obtain size and elevations of all elevated crossing of the canal.
 - d) Work not included:
 - (1) Right of Entry
 - (2) GIS
 - (3) Project Control
 - (4) Photogrammetric products
 - 2) Data Collection
 - 3) Hydrology and Hydraulics
 - a) Develop overall drainage maps for study area
 - b) Coordinate with Donna Irrigation District for discharge data from the Donna Reservoir.
 - c) Determine 10, 25, 50 and 100 year discharges at the following locations
 - (1) Crossing of Old River Road
 - (2) Crossing of Calle Chaparral
 - (3) Crossing of FM-493
 - (4) Crossing of Soderquist Rd
 - (5) Crossing of S. Victoria Rd
 - (6) Outfall to IBWC
 - d) Complete HEC-RAS analysis for existing conditions at the above indicated locations
 - e) Determine and develop recommended improvements needed for the above crossing and canal within the area of study for 10, 25, 50 and 100 year storm

Work Authorization No. 20

Exhibit "B"

Scope of Services

Old River Road Flooding Investigation

Contract No. Pct. 1 2012 Bond Referendum Professional Agreement Approved on April 9, 2013

- f) Determine needed improvements to Old River Road to be above the water surface elevation for the 10, 25, 50 and 100 year storm.
- 4) Develop Preliminary Engineering Report
 - a) Prepare existing typical sections for:
 - (1) Canal Improvements
 - (2) Old River Road
 - b) Table of improvements
 - (1) For existing crossings at:
 - (a) Crossing of Old River Road
 - (b) Crossing of Calle Chaparral
 - (c) Crossing of FM-493
 - (d) Crossing of Soderquist Rd
 - (e) Crossing of S. Victoria Rd
 - c) Typical sections for:
 - (1) Canal
 - (2) Old River Road
 - d) Layout for indication of section of needed improvements for 10, 25, 50 and 100 year storm
 - e) Development of estimate of probable construction cost for the above items for the 10, 25, 50 and 100 year storm. Estimate will be developed for each roadway crossing, canal improvements and Old River Road.
 - f) Appendix with inclusion of:
 - (3) HEC-HMS
 - (4) HEC-RAS
 - (5) Typical Sections
 - (6) Layouts
 - (7) Estimate of probable construction cost
- 5) Work not included:
 - a) Flood Plain Mapping
 - b) Water Treatment & Distribution
 - c) Alternate Solutions/Recommendations for Final Design
 - d) Final Design
 - e) Construction

EXHIBIT "D" Estimated Cost Proposal

Work Authorization #20 - Old River Road Flood Investigation

Contract No. Pct 1 2012 Bond Referendum Professional Agreement approved on April 9, 2013

Survey at 40% of 2% of \$1,810,376.44	\$	14,483.01
Preliminary Engineering Report at 40% of 7.5% of \$1,810,376.33	\$	<u>54,311.29</u>
TOTAL LUMP SUM AMOUNT FOR THIS WORK AUTHORIZATION	\$	68,794.30

AI -52652

11.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Jaime Salazar

Submitted By: Jaime Salazar, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 BOND SERIES

Requesting approval of Work Authorization No. 3 to On Call CMT Services Pct. #2, Pct. #3, Pct. #4 & HCDD1 Master Drainage System agreement with L&G Engineering in the amount of \$12,986.82 as it relates CMT Services for North Branch Drain & Mile 17 1/2 Project.

BACKGROUND

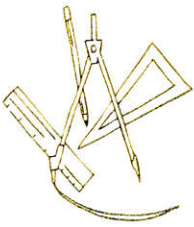
Fiscal Impact

Attachments

WA No. 3

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 10:11 AM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Jaime Salazar		Started On: 12/11/2015 09:56 AM
Final Approval Date: 12/11/2015		



November 18, 2015

Mr. Raul Sesin, P.E. – Executive Director
Hidalgo County Drainage District #1
902 N. Doolittle Rd
Edinburg, Texas 78542

**RE: *On-Call CMT Services (Pct #2, Pct #3, Pct #4 & HCDD#1 Master Drainage System)
Work Authorization #3 – North Branch Drain & Mile 17 ½ Project***

Dear Mr. Sesin:

Attached for your review and execution are two originals of Work Authorization #3 with all associated attachments, between L&G Engineering and Hidalgo County Drainage District #1 for the North Branch Drain & Mile 17 ½ Project.

Should you have any questions, please feel free to contact me at (956) 585-1909.

Sincerely,

David Saenz, P.E., C.F.M.
Project Manager

Attachments: Work Authorization #3

Cc: Mr. Jacinto Garza, P.E. – L&G Engineering

HIDALGO COUNTY DRAINAGE DISTRICT NO 1
Professional Construction Material Testing Laboratory Services
For On-Call CMT Services (Pct #2, Pct #3, Pct #4 & HCDD#1 Master Drainage
System) Professional Agreement

WORK AUTHORIZATION NO. 3

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. of the Agreement made by and between **HIDALGO COUNTY DRAINAGE DISTRICT NO 1**, action herein by and through the **Board of Directors**, hereinafter called the "**Owner**," and, L&G Consulting Engineers, Inc. professional Laboratory's of Texas, hereinafter called "**Laboratory**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the **Laboratory** to provide On-Call CMT Services for the North Branch Drain & Mile 17 ½ Project.

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 services under this Work Authorization is \$12,986.82. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as **EXHIBIT "D"**.

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 3 of the Agreement.

PART 4. FUNDING

This Work Authorization No. 3 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 on the earlier of (date) or upon completion of scope of the work authorization.

PART 6. RESPONSIBILITIES AND OBLIGATIONS

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

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Hidalgo County Drainage District No 1, General Manager, Raul E. Segin, PE, CFM, as to content and detail of this Work Authorization No. 3.

**HIDALGO COUNTY DRAINAGE DISTRICT NO 1
General Manager**

BY: _____
Raul E. Segin, PE, CFM

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Drainage District No 1 Board of Directors Court on _____ as indicated below and effective as of _____ day of _____, 2015.

THE LABORATORY:



By: Jacinto Garza, P.E.
President / C.E.O.

**HIDALGO COUNTY DRAINAGE
DISTRICT NO 1:**

Ramon Garcia
CHAIRMAN OF THE BOARD

**APPROVED AS TO FORM:
Atlas, Hall & Rodriguez, L.L.P.**

By: _____

ATTACHMENTS:

- Exhibit A – Services to be provided by Owner
- Exhibit B – Services to be provided by Laboratory
- Exhibit C – Omitted
- Exhibit D – Cost Proposal

EXHIBIT A

Scope of 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 Projects.

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.
- 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

Scope of Services to be provided by the Laboratory

SECTION 1 – CONSTRUCTION PHASE SERVICES (Function Code 320)

CONSTRUCTION INSPECTION SERVICES:

N/A

CONSTRUCTION MATERIAL TESTING:

The LABORATORY will provide the OWNER with construction material testing services for the Project. The services to be provided include sampling and testing of all construction materials as required by the project plans and specifications. All sampling frequencies and test procedures will be performed in general accordance with the Texas Department of Transportation TEX methods (or ASTM methods as required) as outlined in the Guide Schedule for Sampling and Testing (08/10) or Project Plans and Specifications (or as directed by the OWNER). The construction material testing includes, but is not limited to the following:

- (a) Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.
- (b) Field density testing of soils and base materials to ensure proper compaction as required by project plans and specifications.
- (c) Field sampling and testing of fresh concrete, and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
- (d) Field compaction testing of asphalt to ensure proper compaction during lay down operations.
- (e) Field inspection, sampling and laboratory testing of asphalt materials to determine their material properties and their compliance with project plans and specifications.
- (f) Any additional laboratory testing as required/requested by the OWNER and the project plans and specifications.
- (g) Providing accurate and timely reports to the OWNER and all/other recipients as designated by the OWNER.

EXHIBIT B

Scope of Services to be provided by the Laboratory

SECTION 2 – ADDITIONAL RESONSIBILITIES

Document and Information Exchange

CMT Reports and Inspection documentation shall be provided in PDF format.

Two copies of the documentation shall be provided to the OWNER.

If required, the LABORTORY shall provide to the OWNER, an electronic medium (CD/DVD/USB) that contains all the CMT Reports and Inspection documentation for the project.

Proposal Time

The time indicated in the proposal and the contract shall include time necessary for reviews, approval, etc.

Office Location

The LABORATORY will perform the services to be provided under this agreement out of their office or offices listed below:

<u>Service</u>	<u>Office Location</u>
CMT	Mercedes Office
Inspection	Mission Office

The work effort will be managed out of the _____ Mercedes
(City)
office located at _____ 2100 West Expressway 83 _____,
(Address)
_____ Mercedes _____ Texas _____
(City) (State)

EXHIBIT B

Scope of Services to be provided by the Laboratory

APPENDIX A – GENERAL SERVICES OUTLINE

The following is a general outline of the services to be provided by the LABORATORY in providing Construction Materials Testing Services, and Construction Inspection Services:

A. Construction/Maintenance Phase:

- 1) Attend the OWNER'S and respective Party's pre-construction and construction meetings as requested for the purpose of researching geotechnical investigation report recommendations 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 inspection and observation services as requested by the OWNER on construction and maintenance projects.

B. Miscellaneous/Other:

- 1) 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.
- 2) The plans, specifications, and CMT reports 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.
- 3) 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.

Exhibit "D"
L&G Engineering
North Branch Drain & Mile 17 1/2 Crossing
Prepared for Hidalgo County Drainage District No. 1

Trench Backfill-In Situ Soils and Sand Testing-Laboratory					
Moisture Density Relationship (TxDOT)	2	Each	\$212.59	\$425.18	<i>quantity based on 4 site visits to obtain samples of In-Situ Subgrade and sand materials for laboratory testing</i>
Atterberg Limits of Soils	2	Each	\$79.66	\$159.32	
Material Finer #200	2	Each	\$66.47	\$132.94	
Test Report	2	Each	\$23.59	\$47.18	
Soil & Aggregate Tech	8	Hour	\$51.34	\$410.72	
Mileage (Trip Charge)	80	Miles	\$0.56	\$44.80	
Subtotal:				\$1,220.14	
Trench Backfill-In-Situ Soils and Sand Backfill Testing-Field					
Field Density Test	32	Each	\$23.91	\$765.12	<i>quantity based on 8 site visits to perform Field Density and Thickness Testing (avg 4 tests per visit)</i>
Test Report	8	Each	\$23.59	\$188.72	
Soil & Aggregate Tech	24	Hour	\$51.34	\$1,232.16	
Mileage (Trip Charge)	320	Miles	\$0.56	\$179.20	
Subtotal:				\$2,365.20	
Flexible Base (Caliche) Cut and Restore Area					
Moisture Density Relationship (TxDOT)	1	Each	\$212.59	\$212.59	<i>Quantity based on 1 site visit to obtain sample for laboratory testing</i>
Atterberg Limits of Soils	1	Each	\$79.66	\$79.66	
Sieve Analysis (Dry)(4 Sieve)	1	Each	\$59.73	\$59.73	
Texas Wet Ball Mill	1	Each	\$232.55	\$232.55	
Triaxial Compression	1	Each	\$350.00	\$350.00	
Soil & Aggregate Tech	8	Hour	\$51.34	\$410.72	
Test Report	3	Each	\$23.59	\$70.77	
Mileage (Trip Charge)	40	Miles	\$0.56	\$22.40	
Subtotal:				\$1,438.42	
Flexible Base (Caliche) Cut and Restore Area					
Field Density Test	4	Each	\$23.91	\$95.64	<i>Quantities based on one (1) visits to perform in-place testing (avg 4 tests per visit)</i>
Test Report	1	Each	\$23.59	\$23.59	
Soil & Aggregate Tech	3	Hour	\$51.34	\$154.02	
Mileage (Trip Charge)	40	Miles	\$0.56	\$22.40	
Subtotal:				\$295.65	

Hot Mix Asphalt Paving-Cut and Restore Area

Extraction/Sieve Analysis/AC%	1	Each	\$232.48	\$232.48
MaximumTheor. Specific Gravity	1	Each	\$90.00	\$90.00
Asphalt Rolling Patterns	1	Each	\$39.86	\$39.86
Coring/ACP Thickness	2	Each	\$66.47	\$132.94
Density of Cores (Set of 2)	2	Each	\$73.04	\$146.08
In-Place Air Voids	2	Each	\$25.00	\$50.00
Asphalt Technician	8	Hour	\$51.34	\$410.72
Mileage (Trip Charge)	120	Miles	\$0.56	\$67.20
Test Report	3	Each	\$23.59	\$70.77
Subtotal:				\$1,240.05

Concrete Placement - Rip Rap & Canasta

Air Content(Pressure Method)	4	Each	\$23.86	\$95.44	<i>Assuming 4 Placements</i>
Test Report	4	Each	\$23.59	\$94.36	
Concrete Technician	12	Hour	\$51.34	\$616.08	
Mileage (Trip Charge)	240	Miles	\$0.56	\$134.40	
Subtotal:				\$940.28	
Cyl. Spec. Prep, Hold, Cure	16	Each	\$12.00	\$192.00	<i>Quantities based on sample pickup an deliver to laboratory for Compression Testing</i>
Comp. Str. Of Cyl. Specimen	16	Each	\$15.92	\$254.72	
Test Reports (7 and 28 day)	8	Each	\$23.59	\$188.72	
Concrete Technician	12	Hour	\$51.34	\$616.08	
Mileage (Trip Charge)	240	Miles	\$0.56	\$134.40	
Subtotal:				\$1,385.92	

Estimated Field and Laboratory Test Fees			\$8,885.66
Admin/Clerical (Report Review)(Hr.)	14	\$60.40	\$845.60
Engineering Lab Mgr. (Report Review)(Hr.)	14	\$102.68	\$1,437.52
Project Engineer (Report Review)(Hr.)	14	\$129.86	\$1,818.04
Estimated Materials Testing Total			\$12,986.82

AI -52650

12.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Jaime Salazar

Submitted By: Jaime Salazar, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 BOND SERIES

Requesting approval of Work Authorization No. 4 to Pharr McAllen Drain & South Flood Water Channel Watershed Improvement agreement with L&G Engineering in the amount of \$299,985.95 as it relates to Engineering Services for South Pharr / Las Milpas South Floodwater channel.

BACKGROUND

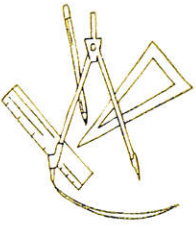
Fiscal Impact

Attachments

WA No. 4 L&G Engineering

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 10:11 AM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Jaime Salazar		Started On: 12/11/2015 09:36 AM
Final Approval Date: 12/11/2015		



December 11, 2015

Mr. Raul Sesin, P.E. – Executive Director
Hidalgo County Drainage District #1
902 N. Doolittle Rd
Edinburg, Texas 78542

**RE: *Pharr McAllen Drain & South Flood Water Channel Watershed Improvement Project
Work Authorization #4 – PS&E on South Pharr/Las Milpas South Floodwater Channel***

Dear Mr. Sesin:

Attached for your review and execution are two unexecuted Work Authorization #4 – PS&E on South Pharr/Las Milpas South Floodwater Channel, with all associated attachments, between L&G Engineering and Hidalgo County Drainage District #1 for the Pharr McAllen Drain & South Flood Water Channel Watershed Improvement Project.

Should you have any questions, please feel free to contact me at (956) 585-1909.

Sincerely,

David Saenz, P.E., C.F.M.
Project Manager

Attachments: Work Authorization #4

Cc: Mr. Jacinto Garza, P.E. – L&G Engineering

PROFESSIONAL ENGINEERING SERVICES CONTRACT DATED APRIL 14, 2015 FOR THE PHARR MCALLEN DRAIN & SOUTH FLOOD WATER CHANNEL WATERSHED IMPROVEMENT PROJECT FOR HIDALGO COUNTY PRECINCT 2 (THE “AGREEMENT”) WORK AUTHORIZATION FORM

WORK AUTHORIZATION NO. 4

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. of the Agreement dated April 14, 2015 made by and between HIDALGO COUNTY DRAINAGE DISTRICT NO. 1 hereinafter called the “Owner”, and L&G CONSUTLING ENGINEERS, INC. d/b/a L&G ENGINEERING, professional Engineers hereinafter called “Engineer”, for the Pharr McAllen Drain & South Flood Water Channel Watershed Improvement Project.

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the Engineer to provide

See Attached “Exhibit B” for detailed “Scope of Services”...

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 \$299,985.95. This amount is based upon the costs outlined in the Estimated Cost Proposal attached hereto as EXHIBIT “D”.

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Article/Part/Section 5/1 of the Agreement.

PART 4. FUNDING

This Work Authorization No. 4 shall be funded through funding source:

Account No. _____

Requisition Number _____

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.

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Jaime Salazar as to content and detail of this Work Authorization No. 4.

BY: _____

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by the Hidalgo County Drainage District No. 1 and L&G Engineering as indicated below and effective as of ___ day of _____, 2015.

THE ENGINEER:

THE OWNER:

Mr. Jacinto Garza, P.E.
President – L&G Engineering

Chairman of the Board
Hidalgo County Drainage District No. 1

**APPROVED AS TO FORM:
ATLAS, HALL & RODRIGUEZ, LLP**

BY: _____

Exhibit “A”
Scope of Services
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**.

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

- (1) Authorization to the **Engineer** to begin work in accordance with Section 3 of this Agreement.
- (2) Payment for work performed by the **Engineer**, and accepted by the **Owner** in accordance with Section 6 of the Agreement.
- (3) 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.
- (4) Provide any available relevant data the **Owner** may have on file concerning the **Project**.
- (5) Provide timely review and decisions in response to the **Engineer’s** request for information and/or required submittals and deliverables, in order for the **Engineer** to maintain the agreed-upon work schedule prepared in accordance with Attachment “___” of this Agreement.
- (6) Attend and participate in progress meetings as required and as coordinated and conducted by the **Engineer**.
- (7) Assist the **Engineer** in the preparation of the **Project** mailing list; provide representation, a site and stenographer for all public meetings; additionally:

Public Meetings

- (a) Approve agenda and all exhibits prior to public meeting;
 - (b) Approve date and location of the meeting; and
 - (c) Review/approve Public Meeting Report
- (8) Attend the Preliminary Concept Conference coordinated and conducted by the **Engineer** and more particularly identified in Attachment “___” of the Agreement.
 - (9) Review and approve the **Project** design criteria.
 - (10) Review and approve change orders as required and prepared by the **Engineer**.

Exhibit “B”

Scope of Services

Services to be Provided by the Engineer

General Project Information

The **Engineer**, through this scope of services, shall provide Engineering Services required for PS&E of the South Pharr/Las Milpas South Floodwater Channel as a part of the Pharr McAllen Drain & South Floodwater Channel Watershed Improvement Project in Hidalgo County, TX, hereinafter denoted as the **Project**.

The **Engineer** shall provide all engineering services as noted under this scope of services for the **Owner**. The **Engineer** shall maintain a direct line of communication and coordinate with the **Owner** throughout the project.

The **Engineer** will furnish all equipment, materials, supplies, and incidentals as needed to perform the services required by this Work Authorization, except as otherwise specified in Exhibit A, “Services to be Provided by the **Owner**”.

Specific activities to be performed by the **Engineer** include the following:

Task 1 – Schematic Development (Overall Exhibit w/ Plan & Profiles)

The **Engineer** will develop a final schematic denoting the needed improvements as dictated by the South Pharr/Las Milpas South Floodwater Channel Watershed Study and subsequent meetings/correspondence noting the most efficient alternatives. The schematic will be inclusive of (but may not be limited to) proposed alignments, typical sections, proposed structure crossings and structure crossing typical sections. The following steps will be generally followed for this task:

- The Engineer will develop a preliminary design schematic, based on the alignment and needed improvements previously selected, and submit to HCDD #1 for review.
- The Engineer will revise the schematic to incorporate HCDD #1’s comments and provide to HCDD.
- The Engineer will meet with HCDD #1 to discuss modifications, if any, to the design schematic. The Engineer will incorporate the changes agreed upon, into the schematic and submit the revised schematic to HCDD #1.
- After receiving approval of the design schematic from HCDD #1, the Engineer will proceed with finalizing the design and complete the PS&E.
- The Schematic details will be completed to the HCDD #1’s requirements.

Task 2 – Support to HCDD#1, HCID#2, & Hidalgo Co. Pct. #2 on Project Development

The **Engineer** will provide support services by way of coordination with project stakeholders and other pertinent parties. Support services will include (but may not be limited to) formal coordination (meetings and conference calls) and informal coordination (general e-mail correspondence, phone calls, informal meetings, etc.). Formal project status meetings will typically be held at least once a month (or other duration dependent on necessity of the **Project**.) Meetings may be held individually with each entity or may be combined entity meetings.

Meetings may include field visits to problem areas and field measurement of said local issues for plan implementation. Documentation of formal and informal coordination may be completed through meeting agendas, meeting minutes, monthly coordination logs and/or call logs.

Task 3 – Coordination and Management of Surveyor

The **Engineer** will provide coordination services with a proposed surveyor or surveying firm, hereinafter denoted as the **Surveyor**, to ensure all necessary details are surveyed / documented for the purposes of schematic generation and final PS&E design. Coordination will include various services including recovery and/or re-establishment of horizontal and vertical control and monumentation, field surveying, topographic surveying, ROW surveying and utility research and coordination (including utility coordination meetings if required). The **Engineer**, as a function of this task, will review final electronic data submitted (points files, topographic maps, utility location exhibits, ROW maps, etc.) and final submitted Field Books and Horizontal/Vertical Control Books. The **Engineer** will verify coordinate systems and datum(s) used are in accordance with project requirements and that all data provided is complete as required for final design.

Task 3a – Design Survey & ROW Mapping

The **Surveyor** (as defined in Task 3) will provide the services as outlined in Exhibit B-2 under this Work Authorization.

Task 4 – Geotechnical Drilling/Testing/Engineering

The **Engineer** will provide the services as outlined in Exhibit B-1 under this Work Authorization.

Task 5 – PS&E Development

The **Engineer** will prepare Plans, Specifications and Estimates (PS&E) for the **Project**. PS&E will be prepared in general accordance with the following:

DESIGN

- A. The **Engineer** shall prepare contract drawings, specifications, and estimates for construction of the **Project** or portions of the **Project** as authorized by the **Owner**. These documents shall in all respects combine the application of sound engineering principles with a high degree of economy, and shall be submitted to the applicable City, County, State and/or Federal agencies for approval.
- B. All final plan sheets shall be developed, by the **Engineer**, on 11” x 17” reproducible, white paper or 4 mil, double-matte, white, opaque film (to be determined by **Engineer**). Copies of the final plan sheets shall also be provided in electronic format (.pdf format) via electronic transport medium (CD, DVD, Jump Drive, etc.)
- C. Graphics files shall be developed by the **Engineer** in Microstation design file format, and must plot consistent with the reproducible plots submitted.
- D. **Plan Sheets:** Plan sheets developed by the **Engineer** shall include, but not be limited to, title sheet, typical sections, sequence of construction, traffic control (as applicable), specification data (including schedules for minimum sampling and testing), estimate and quantity, plan & profile, channel details, roadway details (as applicable), bridge and culvert details, hydraulic details, and standards. (Standards may be used from governing entities, but must be signed

and dated by the **Project Engineer** of responsible supervision as being applicable to the **Project**.)

- E. **Specifications:** Whenever possible, the **Engineer** shall use the Texas Department of Transportation's 2014 Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges. Other specifications may be developed by the **Engineer**, but must incorporate, to the extent possible, references to standard requirements of AASHTO design and AASHTO testing procedures.
- F. **Estimates:** The **Engineer** shall prepare detailed cost estimates and proposals of authorized construction, which shall include summaries of bid items and quantities based, insofar as practicable, on the unit price system of bidding. The **Engineer** shall not be required to guarantee the accuracy of those estimates.

DRAINAGE

- A. The **Engineer** shall review, verify and update hydraulic analysis completed under the previous South Pharr/Las Milpas South Floodwater Channel Watershed Study as needed to coordinate with the conditions of the final PS&E.

STORM WATER POLLUTION PREVENTION PLAN (SW3P)

The **Engineer** shall complete the plans adequately addressing a storm water pollution prevention plan for the entire project during all phases of construction. SW3P plans shall generally include the following drawings:

- **Summary Sheet**
- **Details & Standards**

The **Engineer** shall develop a project specific SW3P to comply with the Federal Regulations (40 CFR part 122) published in the Federal Register on Sept. 9, 1992.

EXHIBIT “B-1”

Services to be Provided by the Laboratory

GENERAL SCOPE OF WORK

The work to be performed by the **Laboratory** under this Work Authorization shall consist of; Geotechnical Drilling and Miscellaneous Field Services, Geotechnical Laboratory Testing Services and Geotechnical Engineering Services for the Pharr-McAllen Drain Improvement project hereinafter denoted as the **Project**.

The **Laboratory** shall provide all services required (as noted under this Work Authorization) for usage by the **Engineer** in the preparation of plans, specification and estimate, and related documents for the **Project**. The **Laboratory** shall maintain a direct line of communication and coordinate with the **Engineer** throughout the project.

The **Laboratory** shall furnish all equipment, materials, supplies, and incidentals as needed to perform the services required, except as otherwise specified to be provided by the **Engineer**.

Specific activities to be performed by the **Laboratory** include the following:

I. Geotechnical Drilling Services and Miscellaneous Field Services

The **Laboratory** will coordinate with the **Engineer** for verification of project vicinity map indicating general boring site locations.

The **Laboratory** will provide drilling/excavation and sampling of subsurface materials as follows in accordance with this Work Authorization and in conformance with ASTM guidelines:

- Twelve (12) Borings will be drilled at approximate location of proposed structures (Borings will be advanced to a depth of approximately 15 feet below the existing top of natural ground)

The **Laboratory** will stake the boring locations and provide utility clearances prior to performing the field exploration portion of the project. The **Engineer** will be responsible to provide any necessary permits or authorization to access areas (right of entry) where borings are to be drilled. All borings will be located in the field by a representative of the **Laboratory**. All boring locations will be documented with GPS coordinates. Field survey and tie-down locations of all borings will be the responsibility of the **Engineer**.

The borings will be advanced to the specified depth(s) and in-situ soil testing will be performed in general accordance with ASTM and/or TxDOT Standard Test Procedures and Geotechnical Manual (ASTM D1586 – Standard Penetration Testing (SPT) and/or Tex-132-E – Texas Cone Penetration (TCP)). In addition, where applicable, thin-walled Shelby tube samples may be collected (ASTM D1587 – Thin Walled Tube Sampling). The soils will be sampled as needed to verify subsurface materials and strata changes. Final drilling depths and elevations will be based on topographic conditions at the time of drilling operations.

Laboratory: L&G Consulting Engineers, Inc. (Lab Division)

Engineer: L&G Consulting Engineers, Inc.

All samples will be removed from the sample apparatus during drilling operations. The **Laboratory** will conduct various field tests on the recovered samples, visually classify the samples, and record the appropriate data on a field boring log. The samples will be appropriately packaged to minimize loss of natural moisture content and to reduce the possibility of damage during transportation to the soil testing laboratory facility.

Drilling services will include an initial water strike depth and a 24-hour water level reading at each boring location. Following completion of drilling and sampling, all boreholes will be backfilled with soil cuttings from the completed borings. If there is insufficient soil cuttings available, alternate fill will be used to backfill the completed boreholes.

This proposal does not include activities and corresponding costs that may be associated with the following:

- Providing an ATV mounted drill rig, dozer or special equipment to clear areas of vegetation and debris or re-grading the site to gain access to the boring locations;
- Re-grading the site or portions of the site after drilling activities are completed;
- Site safety meetings that may be required;
- Encountering hazardous or contaminated soils or substances during our field activities.

The **Laboratory** will notify the **Engineer** should these services become necessary to complete field exploration activities, and if approved by the **Engineer**, additional negotiated fee and scope will be incorporated through Supplemental Work Authorization.

II. Geotechnical Laboratory Testing Services

Geotechnical Laboratory Testing will be performed by the **Laboratory** on the samples recovered during the field study to evaluate their physical and engineering properties. Laboratory testing will be performed in general accordance with ASTM and/or TxDOT Standard Test Procedures. Testing shall include the following test procedures:

- (1) Atterberg Limits (ASTM D4318 or Tex-104-E, 105-E, 106-E)
This procedure will be used to aid in the classifying of the soil and to provide information on the potential vertical rise and contraction of the soil. Test data furnished will include Liquid Limit, Plasticity Index, and Linear Shrinkage test results.
- (2) Gradation (-200) (ASTM D1140 or Tex-111-E)
This procedure will be used to aid in the classifying of the soil. A No. 200 sieve will be used to distinguish fine grained material as well as for cohesive soils.
- (3) Lab. Determination of Moisture in Soils (ASTM D2216 or Tex-103-E)
This procedure will aid in determining the in-situ moisture of the soil to be able to evaluate the potential vertical rise and contraction of the soil.

Laboratory: L&G Consulting Engineers, Inc. (Lab Division)
Engineer: L&G Consulting Engineers, Inc.

(4) Particle Size (Sieve) Analysis with Hydrometer (ASTM D422)

This procedure will aid in determining the complete gradation (full gradation curve) of a soil sample including hydrometer for tail-end portion of gradation curve. Full gradation curve can be utilized to extract D50 and D90 soil particle diameters for use in scour analysis and prediction for foundation design.

(5) Sulfate Content of Soil (ASTM C1580 or Tex-145-E)

This procedure will identify the soluble sulfate content of soil by using the colorimetric method. High presence of sulfates in soils can mark a necessity for the use of Sulfate Resistant Concrete (> than 1000 ppm).

III. Geotechnical Engineering Services

The **Laboratory** will utilize information gathered from the field and laboratory testing to provide the **Engineer** with Geotechnical Engineering results and analyses for the **Project**. The findings and conclusions derived from the results and analyses will be presented in a written engineering report and provided to the **Engineer** (three (3) copies). The report will include a boring location plan, boring logs with laboratory classification of recovered soil samples at the boring locations and subsurface water conditions encountered. The report will provide analyses and/or engineering recommendations as follows:

- Develop Plan View of Boring Logs and Classification of Soil Strata
 - Plan view and location scheme of borings will be developed based on preliminary site investigations. Laboratory classification testing and inspection of the soil samples will be reviewed by a Geotechnical Engineer to provide soil classification for engineering purposes in accordance with ASTM D2487 (United Soil Classification System – USCS).
- Strength Parameters and Structural Evaluation of Soil Borings
 - A detailed structural evaluation of the borings will be done so that soil strength parameters can be quantified for usage in overall global stability calculations and estimation of consistency of in-situ strata. In addition, strength parameters will be correlated based on field strength testing for usage in recommendations of construction efforts and shallow structural foundation design.
- Allowable Bearing Capacity at Structure Locations (Pipe/Culvert Crossings)
 - Shallow foundation analyses will include calculation of site specific allowable bearing capacities. The **Laboratory** shall, as a function of this task, provide assistance to the **Engineer** in the design of final shallow foundations. If soft soils or problematic geotechnical conditions are found, the **Laboratory** will document locations and provide recommendations.
- Soil Slope Stability Analysis (GSTABL) for Channel
 - A general geometric model will be constructed for typical channel side slope cross-section to ensure accurate modeling of the proposed configuration (only in vicinity of structure crossings). A limit equilibrium slope stability analysis will be conducted to ensure adequate Factor of Safety on the proposed slopes.

Laboratory: L&G Consulting Engineers, Inc. (Lab Division)

Engineer: L&G Consulting Engineers, Inc.

“EXHIBIT B-1”

Page 3 of 4

- Channel/Culvert Recommendations – Geometry, Geotech. Issues, Limits, Construction
 - The **Laboratory** will consolidate all information, calculations and analyses to provide overall recommendations on culvert locations and channel cross sections (only on vicinity of structure crossings). Recommendations will cover geometry, design, issues noted through the investigation process and construction.

The report will provide general comments and applicable recommendations regarding construction methods, sequences, and potential difficulties that may arise during overall construction as it relates to the soil aspects of this project. This information may serve to guide both geometric modeling and foundation selection and design as well as provide assistance in the preparation of specifications for the project.

Laboratory: L&G Consulting Engineers, Inc. (Lab Division)

Engineer: L&G Consulting Engineers, Inc.

“EXHIBIT B-1”

Page 4 of 4

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

SECTION 1-PROJECT DESCRIPTION

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services for the following described facility:

COUNTY/CITY: Hidalgo County

CONTROL: _____

PROJECT/DESCRIPTION: Pharr McAllen Drain & South Floodwater Channel
Watershed Improvement Project/Design Survey

LENGTH: 4.38 Miles

HIGHWAY: _____

LIMITS: IBWC Main Floodway to South Floodwater Channel

PROJECT CLASSIFICATION

(Place an "X" in only one Project Classification)

- Surface Treatment
- Overlay
- Rehabilitation Existing Road (Scarify & Reshape)
- Convert Non-Freeway to Freeway
- Widen Freeway
- Widen Non-Freeway
- New Location Toll Freeway
- New Location Non-Freeway
- Interchange (New or Reconstruct)
- Bridge Widening or Rehabilitation
- Bridge Replacement
- Upgrade to Standards - Freeway
- Upgrade to Standards - Non-Freeway
- Design Survey/Drainage Improvements

ENGINEER shall mean L&G Engineering.

SURVEYOR shall mean ROW Surveying Services

COUNTY shall mean Hidalgo County.

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

SECTION 6 - FIELD SURVEYING AND PHOTOGRAMMETRY
(Function Code 150)

Services
Provided By:
SURVEYOR CITY/COUNTY

DESIGN AND CONSTRUCTION SURVEYS:

PURPOSE:

The purpose of a "design survey" is to provide field information in support of transportation systems design.

The purpose of a "construction survey" is to provide field data in support of highway construction.

DEFINITIONS:

A "design survey" is defined as the combined performance of research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3-dimensional) mapping of a project site. A design survey may include, but need not be limited to, cross-sections or data to create cross-sections and Digital Terrain Models (DTM), horizontal and vertical location of utilities and improvements, detailing of bridges and other structures, review of right-of-way maps, establishing control points, etc.

A "construction survey" is defined as the combined performance of reconnaissance, field work, analysis, computation, and documentation necessary to provide the horizontal and vertical position of specific ground points to be used by the construction contractor for determining lines and grades.

- | | | |
|------------|------------|--|
| <u>YES</u> | <u>NO</u> | <p>1. Design Surveying</p> <p>a. Primary Project Control – 3 to 5 miles spacing
Precision shall be 1 part in 20,000 or better, unless otherwise directed by the District Engineer.</p> <ul style="list-style-type: none">(1) Establish horizontal control points(2) Establish vertical control points <p>NOTE: ALL BEARING AND DISTANCE SHALL BE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 1983, SOUTH ZONE. ALL DISTANCES AND COORDINATES SHALL BE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999960</p> |
| <u>YES</u> | <u>NO</u> | <p>b. Secondary Project Control – Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Control Data Sheets for inclusion in the Construction Project Plans signed and sealed by an R.P.L.S.</p> <ul style="list-style-type: none">(1) No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer.(2) The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.(3) The unadjusted ratio of precision should be one part in 10,000 or better. (The ratio of precision is the total length of the traverse divided by the total error.)(4) The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.(5) Project control base lines |
| <u>N/A</u> | <u>N/A</u> | <ul style="list-style-type: none">(6) Photogrammetric ground control<ul style="list-style-type: none">(a) Establish horizontal control(b) Establish vertical control points(c) Place and maintain control point targets |

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
Provided By:
SURVEYOR CITY/COUNTY

YES NO

- c. Other Design Surveying
- (1) **The limit of the Design surveys shall be 500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set H&V Control at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each H&V Control. Provide an H&V Control along each outfall identified on the Hydrologic Map. The H&V Control shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Control Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03’/ft per mile error vertically.
 - (2) Complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.
 - (3) Locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.
 - (4) Field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).
 - (5) Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.
 - (6) The Surveyor shall stake the proposed centerline on the existing fields as approved by Engineer before construction for the purpose of utility adjustments and project location.
 - (7) Profile and cross section intersecting streets for ties into project (500-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street). Reference missing voids as per CD provided by the Engineer.
 - (8) Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtances as identified by the engineer sample layout “EXHIBIT E”. The SURVEYOR will meet with the ENGINEER before he ties down any irrigation lines. Jointly the SURVEYOR and the ENGINEER will identify from records such as the Irrigation District Maps and the A&M Data of existing irrigation lines that will need to be tied down. The SURVEYOR will follow the sample given to him by the ENGINEER and tie the structures horizontally and vertically and include in the field books to be submitted.
 - (9) Tie Horizontally and Vertically the existing storm drain system that lies within the existing proposed ROW including the elevation of the outfall of said recovered existing storm drain systems.
 - (10) Tie to existing underground and overhead utilities (location, elevation and direction)
Horizontally – The surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down.
Vertically – The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

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- | | | |
|------------|-----------|--|
| <u>YES</u> | <u>NO</u> | (11) Cross section and profile all outfall channels identified on the Hydrologic Map for a distance of 200-ft beyond the proposed ROW upstream and downstream at 100-ft intervals. The SURVEYOR will provide a complete 2D/3D File including utilities of the outfalls identified. |
| | | (12) Driveways and Turnouts |
| | | (a) Inventory commercial entrances, public roads and side streets separately. |
| | | (b) Obtain centerline station. (Width at ROW, PAV'T and existing radius. |
| | | (c) Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes. |
| | | (d) Obtain width at R.O.W. line. |
| | | (e) Obtain elevations at both edges of the driveway or turnout in line with the side drain. |
| <u>YES</u> | <u>NO</u> | (13) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map) |
| <u>YES</u> | <u>NO</u> | (14) Soil core hole staking at bridge class structures. |
| <u>YES</u> | <u>NO</u> | (15) Determine changes in topography from voids and outdated maps due to development, erosion, etc. |
| <u>YES</u> | <u>NO</u> | (16) Profiles of existing drainage facilities. |
| <u>YES</u> | <u>NO</u> | (17) Measurement of hydraulic opening under existing bridges. |
| <u>YES</u> | <u>NO</u> | (18) Obtain elevations of manholes and valves of utilities |
| <u>YES</u> | <u>NO</u> | (19) Provide temporary signs, traffic control, flags, safety equipment, etc. |
| <u>NO</u> | <u>NO</u> | (20) Ties to existing bridges railroad rail elevations or culverts that may conflict with new construction. |
| <u>NO</u> | <u>NO</u> | (21) Bridge widening top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations. |
| <u>YES</u> | <u>NO</u> | (22) Inventory signs, mailboxes, and driveways |
| <u>NO</u> | <u>NO</u> | (23) Locate wetlands. |
| <u>YES</u> | <u>NO</u> | (24) Locate existing right-of-ways. |

d. Construction Surveys:

In performing construction surveys, the following will be requested by the ENGINEER on an as needed basis, but need not be limited to:

- | | | |
|------------|-----------|--|
| <u>N/A</u> | <u>NO</u> | (1) Stake existing and/or proposed right-of-ways. |
| <u>N/A</u> | <u>NO</u> | (2) Stake existing and/or proposed baseline/centerline. |
| <u>N/A</u> | <u>NO</u> | (3) Stake proposed bridge structures. |
| <u>N/A</u> | <u>NO</u> | (4) Stake proposed drainage structures, such as manholes, culverts, etc. |
| <u>N/A</u> | <u>NO</u> | (5) Set grade stakes. |
| <u>N/A</u> | <u>NO</u> | (6) Recover and check existing control points. |
| <u>N/A</u> | <u>NO</u> | (7) Establish additional control points. |
| <u>N/A</u> | <u>NO</u> | (8) Check elevations and locations of structures. |
| <u>N/A</u> | <u>NO</u> | (9) Determine and resolve conflicts associated with survey data. |

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
Provided By:
SURVEYOR CITY/COUNTY

- | | | |
|------------|-----------|--|
| <u>NO</u> | <u>NO</u> | <p>2. Photogrammetric Products</p> <p>a. Uncontrolled Photography</p> <p style="margin-left: 20px;">(1) Contact Prints</p> <p style="margin-left: 20px;">(2) Mosaics</p> <p style="margin-left: 20px;">(3) Digital ortho plots</p> <p>b. Mapping</p> <p style="margin-left: 20px;">(1) Planimetric Maps</p> <p style="margin-left: 20px;">(2) Contour Maps</p> <p style="margin-left: 20px;">(3) Cross Sections</p> <p style="margin-left: 20px;">(4) Profiles</p> <p style="margin-left: 20px;">(5) Digital Terrain Models (DTM)</p> |
| | | <p>3. <u>UTILITY SUBSURFACE INVESTIGATION:</u>
<u>Utility Quality Levels</u> are in cumulative order (least to greatest) as follows</p> |
| <u>YES</u> | <u>NO</u> | <p>3.1. Quality Level C - Existing Records: Utilities are plotted from review of available existing records that will be generated by the Engineer on the schematic and provided to the surveyor for his further creation of a Utility Map which will be turned in as a deliverable as part of this work order.</p> |
| <u>YES</u> | <u>NO</u> | <p>3.2. Quality Level B - Surface Visible Feature Survey: The Surveyor shall gather the field tied Utility Information and compare it to the existing records (if any) as provided by the Engineer and correlate with surveyed surface-visible features. The surveyor shall create a Utility Layout Map or plan layout 2D, showing the limits of the proposed project and limits of the work area required for this work authorization; including highway stations, limits within existing or proposed right of way. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Layout Map will include all utilities that have been field tied – 2D Horizontal Utilities. This Layout will be provided to the Engineer and a meeting held with Engineer to identify which utilities will need to be tied down vertically. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above ground appurtenance locations must be included in the deliverable to the Engineer. This information will be provided in the latest version of Micro Station or Geopak used by the State. The electronic file will be delivered on C.D. or DVD. A hard copy is required and must be signed, sealed, and dated by the Surveyor. Note: Determine and inform the Engineer of the approximate utility depths at critical locations. This depth indication is understood by the Engineer to be approximate only and is not intended to be used for preparing the construction plans.</p> |
| <u>YES</u> | <u>NO</u> | <p>3.3. <u>Subsurface Utility Locate (Test Hole) Service (Quality Level A), THE SURVEYOR SHALL ESTIMATE LOCATING VERICALLY 25 UTILITES PER MILE OR AS IDENTIFIED BY THE ENGINEER.</u> Locate shall mean to obtain precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B and C. The Surveyor shall:</p> <p>3.3.1 Review the requested test hole locations that have been identified by the Engineer and Coordinate with utility owner inspectors as may be required by law or utility owner policy.</p> |

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

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3. *Utility Subsurface (continued)*
 - 3.3.2 Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
 - Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
 - Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
 - Elevation of existing grade over utility at test hole location.
 - Horizontal location referenced to project coordinate datum.
 - Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
 - Utility facility material(s).
 - Utility facility condition.
 - Coating/Wrapping information and condition.
 - Unusual circumstances or field conditions.
 - 3.3.3 Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the appropriate State District Office.
 - 3.3.4 Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The Engineer shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.
 - 3.3.5 Provide complete restoration of work site and landscape to equal or better condition than before excavation.
 - 3.3.6 Plot utility location position information on the Utility Layout sheet and identify the vertical elevation and sealed by the responsible Surveyor. This information will be provided in the latest version of Micro Station or Geopak format used by the State. The electronic file will be delivered on C.D or DVD.

4. DELIVERABLES:

The deliverables to be specified in individual work authorizations for design surveys and construction surveys may be any combination of the following:

- | | | |
|---|---|---|
| <p><u>YES</u></p> <p><u>YES</u></p> | <p><u>N/A</u></p> <p><u>N/A</u></p> | <p>4.1. Digital Terrain Models (DTM) in a format acceptable by the ENGINEER.</p> <p>4.2. Final H&V Field Book Binder with all pertinent information obtained in the field for Design Surveys. Maps, plans, or sketches prepared by the SURVEYOR showing the results of field surveys.</p> |
| <p><u>YES</u></p> <p><u>YES</u></p> <p><u>YES</u></p> | <p><u>N/A</u></p> <p><u>N/A</u></p> <p><u>N/A</u></p> | <p>4.3. Computer printouts or other tabulations summarizing the results of field surveys.</p> <p>4.4. Digital files or media acceptable by the ENGINEER containing field survey data.</p> <p>4.5. Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.</p> |
| <p><u>YES</u></p> <p><u>YES</u></p> | <p><u>N/A</u></p> <p><u>N/A</u></p> | <p>4.6. Field survey notes, as electronic and/or hard copies.</p> <p>4.7. A H&V Control Book identifying the basis of the Primary and Secondary Control and an 8 ½ inch by 11 inch survey control data sheet for each construction control point which shall include, but need not be limited to, a location sketch, a physical description of the point including a minimum of two reference ties, surface coordinates, a surface adjustment factor, elevation, and the horizontal and vertical datums used. Survey control data sheets shall be signed and sealed by the supervising Registered Professional Land Surveyor.</p> |

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

Services
 Provided By:
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4. *Deliverables (continued)*

- | | | |
|------------|------------|--|
| <u>YES</u> | <u>N/A</u> | 4.8. Final mylar set of 11 inch by 17 inch Survey Control data sheets sign and seal by the RPLS per TxDOT guidelines. |
| <u>YES</u> | <u>N/A</u> | 4.9. A digital and/or hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, data including property descriptions with field notes and plats, right-of-way maps, and survey control data sheets to include in the H&V Field Book Binder. |
| <u>YES</u> | <u>N/A</u> | 4.10. Survey reports in a format requested by the ENGINEER. |
| <u>YES</u> | <u>N/A</u> | 4.11. Items indicated under the Automation Requirements Section 6. |

5. GENERAL REQUIREMENTS:

- 5.1. Design surveys and construction surveys shall be performed under the supervision of a Registered Professional Land Surveyor currently registered with the Texas Board of Professional Land Surveying.
- 5.2. Horizontal ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the STATE.
- 5.3. Reference may be made to standards of accuracy for horizontal control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
- 5.4. Vertical ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the ENGINEER.
- 5.5. Reference may be made to standards of accuracy for vertical control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.
- 5.6. Side shots or short traverse procedures used to determine horizontal and vertical locations shall meet the following criteria:
 - Side shots or short traverses shall begin and end on horizontal and vertical ground control as described above.
 - Standards, procedures, and equipment used shall be such that horizontal locations relative to the control may be reported within the following limits:
 - Bridges and other roadway structures: less than 0.1 of one foot.
 - Utilities and improvements: less than 0.2 of one foot.
 - Cross-sections and profiles: less than 1 foot.
 - Bore holes: less than 3 feet.
 - Standards, procedures, and equipment used shall be such that vertical locations relative to the control may be reported within the following limits:
 - Bridges and other roadway structures: less than 0.02 of one foot.
 - Utilities and improvements: less than 0.1 of one foot.
 - Cross-sections and profiles: less than 0.2 of one foot.
 - Bore holes: less than 0.5 of one foot.

EXHIBIT "B-2"
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

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5. **AUTOMATION REQUIREMENTS:**

- 6.1 Planimetric design files (DGN) shall be fully compatible with the State's *Micro Station V8* graphics program without further modification or conversion.
- 6.2 Electronically collected and processed field survey data files shall be fully compatible with the State's *CADD* systems without further modification or conversion. All files shall incorporate only those feature codes currently being used by the STATE.
- 6.3 Digital Terrain Models (DTM) shall be fully compatible with the STATE's *GEOPAK* system without further modification or conversion. All DTM files shall be fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

EXHIBIT “B-2”
SCOPE OF SERVICES TO BE PROVIDED BY THE SURVEYOR

ADDITIONAL RESPONSIBILITIES

A. TRAFFIC CONTROL:

The SURVEYOR shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI and the latest edition of the Occupational Safety Manual both of which can be found on the TxDOT internet site.

In the event field crew personnel must divert traffic or close traveled lanes, a Traffic Control Plan based upon principles outlined in the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the SURVEYOR and approved by the ENGINEER prior to commencement of field work. A copy of the approved plan shall be in the possession of field crew personnel on the job site at all times and shall be made available to the ENGINEER for inspection upon request.

B. INVOICING:

Payment requests shall include a SURVEYOR’s invoice. With each payment request, the SURVEYOR shall submit a project status report which will, as a minimum, include the percentage of total work complete as of the date of the payment request and a description of current work activity. The percentage of total work complete shall not be based simply on the percentage of funds expended, but shall be based on the best judgment of the SURVEYOR as to the percentage of actual work complete.

C. EASEMENTS, LETTERS OF PERMISSION, ETC.

The SURVEYOR shall be responsible for delineating easements. The SURVEYOR will be responsible for securing the necessary legal instruments and obtaining all Right-of-Entries (ROEs).

D. MEETINGS:

The ENGINEER shall setup the necessary meetings with the SURVEYOR in order to assure all field information is provided on-time and products are delivered in accordance with TxDOT’s specifications. SURVEYOR must attend all meetings involving data provided if requested by ENGINEER.

E. PROJECT MANAGER/SURVEYOR COMMUNICATION:

The SURVEYOR shall designate one Texas Registered Professional Land Surveyor (RPLS) to be responsible throughout the project for project surveying coordination and all communications, including billing, with the ENGINEER.

F. OFFICE LOCATION:

The SURVEYOR will perform the services to be provided under this agreement out of a local office and have a crew available to perform requested tasks within 24 hours of request. The coordinating SURVEYOR’s Project Manager (RPLS) shall be accessible at all times and working from the local office.

**EXHIBIT D
FEE PROPOSAL**

**Pharr McAllen Drain & South Floodwater Channel Watershed Improvement Project
Work Authorization #4**

	MANHOURS						Sub-Contract Amounts	Total Line Item Cost
	Senior Project Manager	Senior Engineer	Project Engineer	Senior Engineering Technician	Admin / Clerical	L&G TOTAL HOURS		
CONTRACT RATE (FY 2015)	\$ 218.04	\$ 180.66	\$ 133.94	\$ 93.45	\$ 62.30			
WA #4 - HCDD#1 - Pharr McAllen Drain & South Floodwater Channel Watershed Improvement Project								
1 Schematic Development (Overall Exhibit w/ Plan & Profiles)	32	56	80			168		\$ 27,809.44
2 Support/Assistance to HCDD#1, HCID#2 & Hidalgo Co. Pct. #2 on ROW	32	31	41	19		123		\$ 19,844.83
3 Coordination and Management of Surveyor	10	16	22			48		\$ 8,017.64
3a SUB - ROW Surveying and Mapping	(See detailed break-down of fee on Exhibit D-2)						\$ 80,107.00	\$ 80,107.00
4 Geotechnical Drilling/Testing/Engineering	(See detailed break-down of fee on Exhibit D-1)							\$ 20,610.64
5 PS&E Development	40	340	260	360	80	1080		\$ 143,596.40
Subtotal Hours	114	443	403	379	80	1419	\$ 80,107.00	\$ 299,985.95

Grand Total	\$ 299,985.95
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**Exhibit D-1
FEE SCHEDULE**



Geotechnical Engineering, Report & Summary

L&G Consulting Engineers, Inc. (Division: L&G ENGINEERING LAB)

		MANHOURS					Total
		Senior Project Manager	Senior Geotechnical Engineer	Design Engineer	CADD Tech	Admin/Clerical	
HCDD #1 - Pharr-McAllen Drain Imp. Project							
Client: HCDD #1							
TASK							
1	Structural Evaluation of Borings / Calc. Shear Strength Models / Soil Profiles			2			2
2	Allowable Bearing Capacity at Structure Locations			2			2
3	Slope Stability Analysis - General Typ. Section Proposed (Verify)			4			4
4	Channel/Culvert Recommendations - Geometry, Geotech Issues, Limits, Const.		2	4			6
5	Geotechnical Report (Including Soil Survey/Geog./All Analyses)	2	2	10	4	4	22
6	Meetings/Coordination	2	2				4
	Subtotal	4	6	22	4	4	40
Labor Hours		4	6	22	4	4	40
Hourly Base Rates		\$ 70.00	\$ 58.00	\$ 43.00	\$ 22.00	\$ 20.00	
Direct Salary Cost		\$ 280.00	\$ 348.00	\$ 946.00	\$ 88.00	\$ 80.00	
Contract Rate w/ Audited Overhead Rate of 178.12% & 12% Profit		\$ 218.04	\$ 180.66	\$ 133.94	\$ 68.53	\$ 62.30	
Total Labor Costs		\$ 872.16	\$ 1,083.96	\$ 2,946.68	\$ 274.12	\$ 249.20	\$ 5,426.12

LINE ITEM EXPENSES

Printing Reproduction (Estimated 3 Reports x 30 Pages per Report x \$1.00 per Page)	\$ 90.00
*L&G Consulting Engineers, Inc. (Sub-Total for Geo. Field & Lab Services)	\$ 15,094.52
* - (Please see page 2, for detailed estimates of testing)	
Total Expenses	\$ 15,184.52

L&G Laboratory Total Cost

\$ 20,610.64

Exhibit D-1
Geotechnical Field and Laboratory Services
HCDD #1 - Las Milpas Drainage Imp. Project
Prepared for HCDD #1

	SERVICES		UNITS	UNITS	UNIT COST	TOTAL COST
I.	Project Management / Review					
	A. Principal / Project Manager / Review		Hours			
	B. Senior Project Engineer (Staff)		Hours			\$ -
	C. Typing and Clerical (Report)		Hours			
	D. Lodging		Day			
	E. Mileage		Mile			
	F. Air Travel		Trip			
II.	Utility Clearances / Boring Locates					
	A. Technician (Locate Borings)(Util Clr)		Hours	4	\$ 52.95	\$ 211.80
	B. Staff Engineer/Geologist/Scientist		Hours			
	C. Rebar (stakes with impalement covers)		Cost +12.5%			
	D. Vehicle Charge		Mile			
	E. Mileage		Mile	40	\$ 0.55	\$ 22.00
	F. Survey Locate Borings (X,Y,Z)		LS			\$ -
III.	Field Exploration					
A	Mobilization/Demobilization		Day	3	\$ 441.66	\$ 1,324.98
B	Field Exploration					
	1a. Soil Boring (Solid Stem)		Feet	180	\$ 31.08	\$ 5,594.40
	1b. Soil Boring (Mud Rotary)		Feet			\$ -
	2. TxDOT TCP Field Test (BL/ft)		Ea.	36	\$ 5.55	\$ 199.80
	3. Field Logger / Engineering Tech		Hour	24	\$ 52.95	\$ 1,270.80
	4. 24 Hr. Water Level Observations		Hour	2	\$ 52.95	\$ 105.90
	5. Piezometers		Each			\$ -
	6. Supp. Vehicle-Trailer, Tools Water Supply		Mile	120	\$ 1.65	\$ 198.00
	7. Vehicle Charge		Mile	160	\$ 0.55	\$ 88.00
C	Miscellaneous Field Services					
IV.	Engineering Data Analysis / Report					
	1. Staff Engineer		Hours			
	2. Engineer III (Soil Classification)		Hours	3	\$ 133.94	\$ 401.82
	3. Engineer III (Logs & Summaries)		Hours	3	\$ 133.94	\$ 401.82
	4. Moisture Content		Ea.	36	\$ 10.55	\$ 379.80
	5. Atterberg Limits		Ea.	24	\$ 79.66	\$ 1,911.84
	6. -200 Determination		Ea.	12	\$ 66.47	\$ 797.64
	7. Sieve Analysis (w/ Hydrometers)		Ea.	12	\$ 95.76	\$ 1,149.12
	8. UC Testing (w/ Unit Weight)		Ea.			\$ -
	9. Consolidation Testing		Ea.			\$ -
	10. Dry Unit Weight		Ea.			\$ -
	11. Soils Sulfate Content		Ea.	12	\$ 86.40	\$ 1,036.80
	12. Determination of Soil pH		Ea.			\$ -
	13. Lime Series Testing (5 Pt.)		Ea.			\$ -
Project Sub-Total (Geo Field and Lab)						\$ 15,094.52

Exhibit "D-2"
BUDGET
LUMP SUM RATE BASIS OF PAYMENT

Work Authorization No. _____

A	B	C	D	E	F	G	H	I	J	
1	Project: Pharr McAllen Drain & South Floodwater Channel Watershed Improvement Project								R.O.W. Surveying Services, L.L.C.	
2	County: Hidalgo County, Texas									
3	From: IBWC Main Floodway to South Floodwater Channel									
4	Description of Work: Design Survey									
5										
6	TASK AND DESCRIPTION	Survey		Survey	4-man	3-man	2-man	Admin/ Clerical	Total	Cost
7	FC 150 Field Surveying	PM	RPLS	Technician	Survey Crew	Survey Crew	Survey Crew		Hours	
8	HOURLY RATE	\$124.00	\$125.00	\$82.00	\$175.00	\$155.00	\$130.00	\$50.00		
9	PHASE 1 - FC 150 Field Surveying (Control Hz & Vt)									
10	A. Primary Project Control									
11	a. Establish Primary Control	0	1	2	0	15	0	0	18	\$ 2,614.00
12	B. Secondary Project Control									
13	a. Set additional secondary control points as needed	0	1	2	0	10	0	0	13	\$ 1,839.00
14	b. Horizontal values established with RTK or VRS	0	1	10	0	10	0	0	21	\$ 2,495.00
15	c. Vertical values established with digital level (+/- 8 miles total)	0	1	2	0	32	28	0	63	\$ 8,889.00
16	Subtotal Hours	0	4	16	0	67	28	0	115	
17	Subtotal Cost - Phase 1	\$0.00	\$500.00	\$1,312.00	\$0.00	\$10,385.00	\$3,640.00	\$0.00		\$ 15,837.00
18	PHASE 2 - DTM Topography and Cross sections (Total Length including =4.38 Miles)									
19	C. Setting Benchmarks									
20	1. Setting Benchmarks @ 1000'(ft) intervals (+/- 20 Monuments)	0	0	0	0	32	0	0	0	\$ 4,960.00
21	2. Topographic & Crossections (1500' per day)	0	3	12	0	90	0	0	105	\$ 15,309.00
22	3. Locate Visible Utilities	0	0	0	0	0	0	0	0	\$ -
23	a. Utilities	0	0	8	0	30	0	0	38	\$ 5,306.00
24	4. Cross Culverts, Driveway Culverts, Inverts (13 drainage structures +/- 16 drives adjacent to drain)	0	12	12	0	30	0	0	54	\$ 7,134.00
25	5. Right of Entry, ROW Research, Appraisal Dist. Records	0	0	0	0	0	0	0	0	\$ -
26	6. Proposed Centerline on Existing Pavement Pre-Construction for Utilities	0	0	0	0	0	0	0	0	\$ -
27	7. Profile and Cross section Intersecting Streets	0	0	0	0	25	0	0	25	\$ 3,875.00
28	8. Irrigation Crossings	0	0	8	0	10	0	0	18	\$ 2,206.00
29	9. Existing Storm Drain H&V (invert culverts and upstream elevations of in coming pipes to channel)	0	0	5	0	10	0	0	15	\$ 1,960.00
30	10. Tie Existing Underground and Overhead Utilities Coordinate with Engineer (No SUE)	2	2	0	0	10	0	0	14	\$ 2,048.00
31	11. Additional Field Surveying									
32	a. Irrigation Lines	2	1	6	0	6	0	0	15	\$ 1,795.00
33	b. Outfalls	0	0	0	0	0	0	0	0	\$ -
34	c. Driveways and Turnouts	0	0	8	0	8	0	0	16	\$ 1,896.00
35	15. Profiles of Existing Drainage Facilities	0	0	0	0	0	0	0	0	\$ -
36	17. Obtain Elevations of Manholes and Valves of Utilities	0	0	10	0	7	0	0	17	\$ 1,905.00
37	18. Provide temp. signs, traffic control, flags, safety equip. etc.	0	0	0	0	10	0	0	10	\$ 1,550.00
38	19. Ties to Existing Bridges or Culverts that may be in conflict with new construction	0	0	0	0	0	0	0	0	\$ -
39	21. Inventory Signs, mailboxes, and driveways	0	0	10	0	7	0	0	17	\$ 1,905.00
40	22. Survey Control Data Sheets per TxDOT	0	8	12	0	0	0	0	20	\$ 1,984.00
41	23. Recover and Establish Existing CL and ROW	0	4	8	0	12	0	0	24	\$ 3,016.00
42	24. Coordinate with the Engineer for Existing CL Stationing	0	0	0	0	0	0	0	0	\$ -
43	Subtotal Hours	4	30	99	0	287	0	0	420	
44	Subtotal Cost - Phase 2	\$496.00	\$3,750.00	\$8,118.00	\$0.00	\$44,485.00	\$0.00	\$0.00		\$ 56,849.00
45	PHASE 3 - FINAL REPORT & DELIVERABLES									
46	A. CADD file (2D & 3D) for limits of project	0	0	10	0	0	0	0	10	\$ 820.00
47	B. Final Report and Deliverables	4	10	10	0	0	0	2	26	\$ 2,666.00
48	Subtotal Hours	4	10	20	0	0	0	2	36	
49	Subtotal Cost - Phase 3	\$496.00	\$1,250.00	\$1,640.00	\$0.00	\$0.00	\$0.00	\$100.00		\$ 3,486.00
50	PROJECT MANAGEMENT & OVERSIGHT									
51	A. Meeting & Coordination w/ Engineers	5	5	0	0	0	0	2	12	\$ 1,345.00
52	B. QC/QA Survey	10	10	0	0	0	0	2	22	\$ 2,590.00
53	Subtotal Hours	15	15	0	0	0	0	4	64	
54	Subtotal Cost - PM & Oversight	\$1,860.00	\$1,875.00	\$0.00	\$0.00	\$0.00	\$0.00	\$200.00		\$ 3,935.00
55	Total Fee FC 150	\$2,852.00	\$7,375.00	\$11,070.00	\$0.00	\$54,870.00	\$3,640.00	\$300.00	635	\$ 80,107.00
56										

AI -52635

13.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Lora Briones

Submitted By: Alvaro Chuc, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Presentation by Hidalgo County Drainage District No. 1 Financial Advisor; Estrada and Hinojosa with respect to the issuance, sale and delivery of Hidalgo County Drainage District No.1 Unlimited Tax Refunding Bonds, Series 2016.

B. "Consider and approve a resolution authorizing issuance, sale and delivery of Hidalgo County Drainage District No. 1 Unlimited Tax Refunding Bonds; Series 2016; delegating certain authority to the County Judge and the Financial Officer of the District pursuant to the provisions of Texas Government Code, Sections 1207.007 and 1207.008; payable from the levy of a direct and continuing unlimited annual ad valorem tax pursuant to the provisions of Chapter 56, Texas Water Code; authorizing the refunding of certain outstanding obligations; authorizing the execution of a bond purchase contract; approving an official statement, execution of an escrow and trust agreement, and making other provisions regarding such bonds and matters incident thereto."

BACKGROUND

David G. Gordon, Managing Director will present.

Fiscal Impact

Attachments

Refunding Analysis Plan of Finance

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 08:22 AM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Alvaro Chuc		Started On: 12/10/2015 03:37 PM

Final Approval Date: 12/11/2015

December 10, 2015



Hidalgo County Drainage District No. 1

Refunding Analysis / Plan of Finance
Unlimited Tax Refunding Bonds, Series 2016

ESTRADA • HINOJOSA
INVESTMENT BANKERS

Dallas • Austin • Chicago • Houston • Miami • New York • San Antonio • San Diego

Eligible Bonds to be Refunded

- As shown below, current rates offer significant savings on a maturity-by-maturity basis versus the existing interest rates.

Eligible Bonds to be Refunded								
Series	Maturity Date	Existing Coupon	Par Amount	Call Date	Call Price	Current Rates	Rate Difference	
Unlimited Tax Improvement Bonds, Series 2007								
	9/1/2017	5.000%	\$1,410,000	9/1/2016	100%	0.990%	4.010%	
	9/1/2018	4.000%	1,475,000	↓	↓	1.220%	2.780%	
	9/1/2019	4.000%	1,535,000	↓	↓	1.380%	2.620%	
	9/1/2020	4.000%	1,595,000	↓	↓	1.560%	2.440%	
	9/1/2021	4.000%	1,660,000	↓	↓	1.780%	2.220%	
	9/1/2022	4.000%	1,730,000	↓	↓	1.950%	2.050%	
	9/1/2023	4.125%	1,805,000	↓	↓	2.110%	2.015%	
			\$11,210,000					
Unlimited Tax Improvement Bonds, Series 2008								
	9/1/2019	4.000%	3,800,000	9/1/2018	100%	1.380%	2.620%	
	9/1/2020	4.250%	3,955,000	↓	↓	1.560%	2.690%	
	9/1/2021	5.000%	4,125,000	↓	↓	1.780%	3.220%	
	9/1/2022	5.000%	4,300,000	↓	↓	1.950%	3.050%	
	9/1/2023	5.000%	4,490,000	↓	↓	2.110%	2.890%	
	9/1/2024	5.000%	4,695,000	↓	↓	2.270%	2.730%	
	9/1/2025	5.000%	4,920,000	↓	↓	2.460%	2.540%	
	9/1/2026	4.750%	5,160,000	↓	↓	2.550%	2.200%	
	9/1/2027	5.000%	5,420,000	↓	↓	2.630%	2.370%	
	9/1/2028	5.000%	5,690,000	↓	↓	2.710%	2.290%	
			\$46,555,000					
			\$57,765,000	Total Bonds to be Refunded				

Savings by Maturity

Refunding Candidates						Savings Results			Efficiency
Series	Maturity	Par	Coupon	Call Date	Call Price	PV Savings	PV Savings %	Neg. Arb	PV Savings/ (PV Savings + Neg. Arb.)
2007	9/1/2017	\$1,410,000	5.000%	9/1/2016	100.00	\$37,053	2.628%	4,048	90.2%
2007	9/1/2018	1,475,000	4.000%	9/1/2016	100.00	58,089	3.938%	6,875	89.4%
2007	9/1/2019	1,535,000	4.000%	9/1/2016	100.00	93,335	6.080%	9,079	91.1%
2007	9/1/2020	1,595,000	4.000%	9/1/2016	100.00	122,524	7.682%	11,676	91.3%
2007	9/1/2021	1,660,000	4.000%	9/1/2016	100.00	143,481	8.643%	14,998	90.5%
2007	9/1/2022	1,730,000	4.000%	9/1/2016	100.00	163,929	9.476%	17,917	90.1%
2007	9/1/2023	1,805,000	4.125%	9/1/2016	100.00	195,232	10.816%	20,952	90.3%
	TOTAL	\$11,210,000				\$813,641	7.258%	85,544	90.5%
2008	9/1/2019	\$3,800,000	4.000%	9/1/2018	100.00	\$36,374	0.957%	21,865	62.5%
2008	9/1/2020	3,955,000	4.250%	9/1/2018	100.00	119,384	3.019%	43,119	73.5%
2008	9/1/2021	4,125,000	5.000%	9/1/2018	100.00	257,377	6.239%	71,482	78.3%
2008	9/1/2022	4,300,000	5.000%	9/1/2018	100.00	340,795	7.925%	95,312	78.1%
2008	9/1/2023	4,490,000	5.000%	9/1/2018	100.00	417,151	9.291%	119,861	77.7%
2008	9/1/2024	4,695,000	5.000%	9/1/2018	100.00	482,919	10.286%	146,482	76.7%
2008	9/1/2025	4,920,000	5.000%	9/1/2018	100.00	522,889	10.628%	179,703	74.4%
2008	9/1/2026	5,160,000	4.750%	9/1/2018	100.00	425,180	8.240%	203,774	67.6%
2008	9/1/2027	5,420,000	5.000%	9/1/2018	100.00	499,128	9.209%	230,274	68.4%
2008	9/1/2028	5,690,000	5.000%	9/1/2018	100.00	484,054	8.507%	257,900	65.2%
	TOTAL	\$46,555,000				\$3,585,250	7.701%	1,369,770	72.4%

Savings Summary

FYE 12/31	Prior Debt Service	Refunding Debt Service	Savings	Present Value Savings	FYE 12/31
2016	\$1,461,436	\$1,459,856	\$1,580	\$1,645	2016
2017	\$4,121,944	\$3,700,850	\$421,094	\$407,491	2017
2018	\$4,116,444	\$3,693,950	\$422,494	\$399,588	2018
2019	\$7,917,444	\$7,496,750	\$420,694	\$388,940	2019
2020	\$7,919,044	\$7,500,000	\$419,044	\$379,058	2020
2021	\$7,922,156	\$7,500,750	\$421,406	\$372,939	2021
2022	\$7,894,506	\$7,473,500	\$421,006	\$364,384	2022
2023	\$7,875,306	\$7,454,000	\$421,306	\$356,619	2023
2024	\$5,976,350	\$5,556,250	\$420,100	\$347,768	2024
2025	\$5,966,600	\$5,543,500	\$423,100	\$342,463	2025
2026	\$5,960,600	\$5,540,500	\$420,100	\$332,474	2026
2027	\$5,975,500	\$5,551,250	\$424,250	\$328,341	2027
2028	\$5,974,500	\$5,554,500	\$420,000	\$317,819	2028
	<u>\$79,081,830</u>	<u>\$74,025,656</u>	<u>\$5,056,174</u>	<u>\$4,339,529</u>	

Savings Summary

Net Future Value (FV) Savings from cash flow:	\$5,056,174
Net Present Value (PV) Savings from cash flow:	\$4,340,316 *
% Savings of Refunded Bonds:	7.514%
Avg. Annual Savings (FYE 2017-2028):	\$421,216

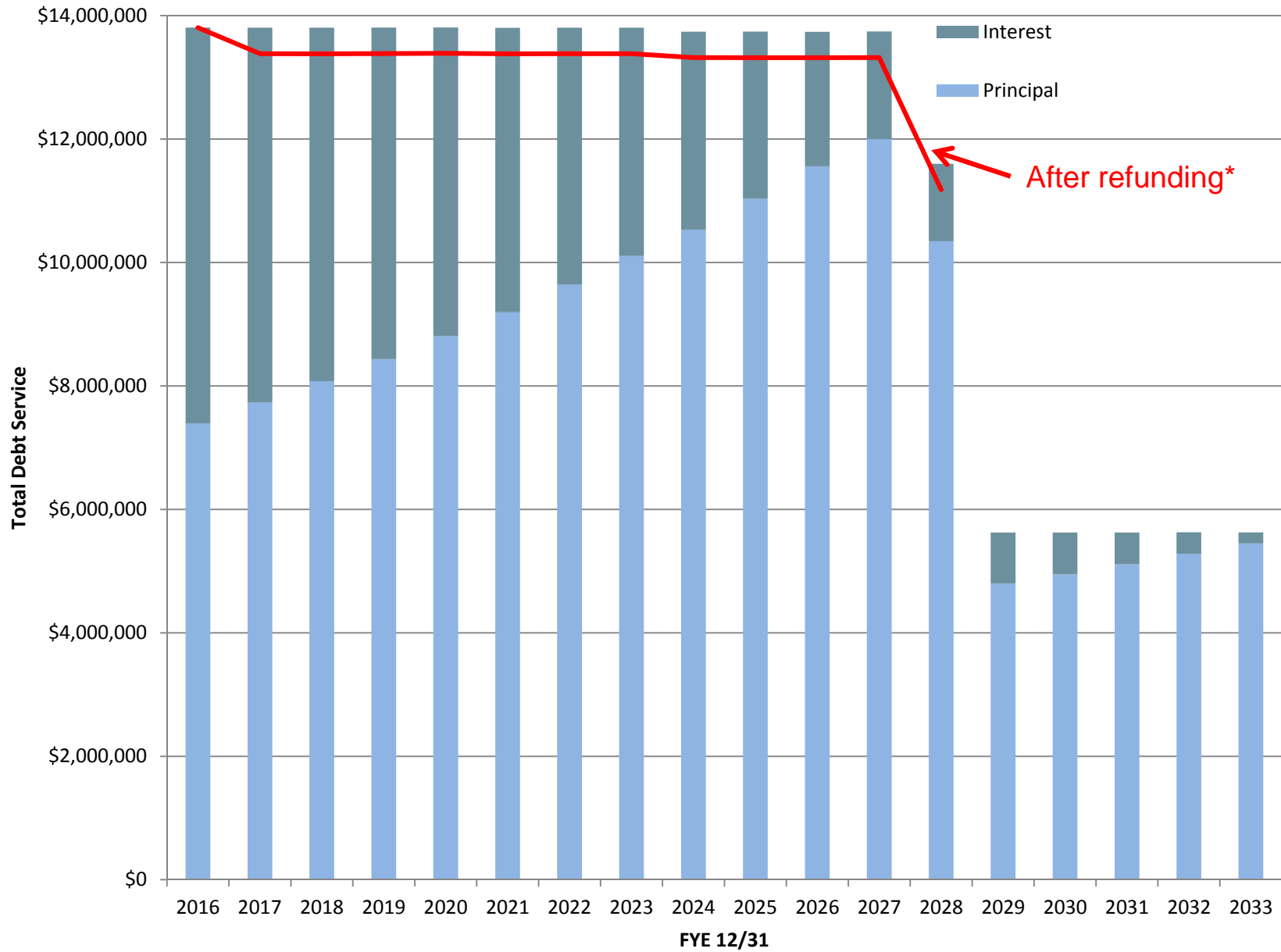
*Includes rounding amount of \$787.

Refunding Summary

- Based on current rates, significant Net Present Value (NPV) and annual savings can be realized by refunding the District's Unlimited Tax Improvement Bonds, Series 2007 and Unlimited Tax Improvement Bonds, Series 2008.
- Assumes that the escrow is invested in SLGS. The use of open markets securities (OMS) could increase the savings.
- Results assume that today's rates exist at the time of pricing.

Refunding Summary	
Delivered:	2/17/2016
Par Amount of Refunding Bonds:	\$53,495,000
Par Amount of Refunded Bonds:	\$57,765,000
NPV Savings:	\$4,340,316
% Savings of Refunded Bonds:	7.514%
Avg. Annual Savings (FYE 2017-2028):	\$421,216
Avg. Coupon of Refunded Bonds:	4.799%
True Interest Cost (TIC):	2.489%
Rates as of:	12/8/2015
Negative Arbitrage:	\$1,526,022

Debt Profile



* Preliminary

Preliminary Schedule

Preliminary Schedule

DECEMBER						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JANUARY						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

FEBRUARY						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29					

<u>Date</u>	<u>Day</u>	<u>Event</u>	<u>Responsibility</u>
December 15, 2015	(Tuesday)	Present plan of finance to issue the Unlimited Tax Refunding Bonds, Series 2016 (the "Bonds").	FA
December 15, 2015	(Tuesday)	District adopts parameters orders to issue the Bonds.	District, BC, FA
December 16, 2015	(Wednesday)	Distribute first draft of Preliminary Official Statement (POS).	FA
December 28, 2015	(Monday)	Receive comments from working group on first draft of POS.	Working Group
December 30, 2015	(Wednesday)	Distribute second draft of POS.	FA
December 30, 2015	(Wednesday)	Submit information to Rating Agencies.	FA
January 8, 2016	(Friday)	Receive comments from working group on second draft of POS.	Working Group
January 8, 2016	(Friday)	Conference calls with rating agencies. S&P: TBD Moody's: TBD	District, FA
January 11, 2016	(Monday)	Print and distribute POS.	FA
January 13, 2016	(Wednesday)	Receive ratings.	Rating Agencies
<i>Depending on Market Conditions</i>			
January 20, 2016	(Wednesday)	Price the Obligations via negotiated sale.	UW, FA
January 20, 2016	(Wednesday)	Pricing officer approves the sales of the Bonds.	District, BC, FA
January 21, 2016	(Thursday)	Submit documents to Texas Attorney General.	BC
February 9, 2016	(Tuesday)	Obtain Texas Attorney General Approval of the Obligations.	AG, BC
February 17, 2016	(Wednesday)	Close, deliver Obligations and receive funds/fund escrow.	UW, FA

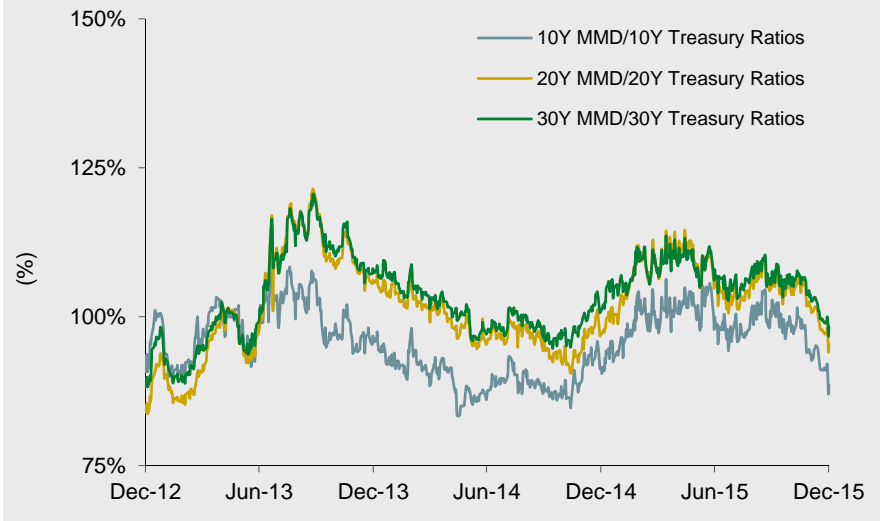
Market Update

Market Update

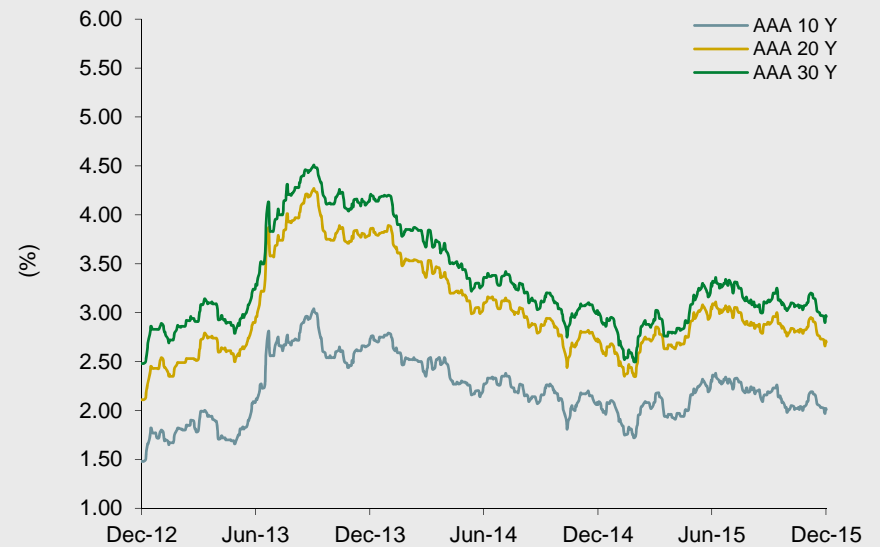
Commentary for the week of December 7th

- Municipal volume is forecast to rise in the coming week, in what may be a last gasp of issuance for the year. Volume for the coming week is forecast to increase to \$7.8 billion, up from a revised \$7.1 billion that priced last week.
- On Friday, the yield on the 10-year benchmark muni general obligation and 30-year yield were lower one basis point each to 2.01% and 2.96%, respectively.
- The yield on the two-year Treasury fell four basis points to 0.94%, while the 10-year Treasury yield declined five basis points to 2.27%, and the 30-year decreased seven basis points to 3.00%. The 10-year muni to Treasury ratio was calculated on Friday at 88.4% from 86.9% on Thursday, while the 30-year muni to Treasury ratio stood at 98.3% compared to 96.8%.
- Non-farm payrolls grew 211,000 in November, higher than the forecast for a 200,000 gain. The jobless rate held at a seven-year low of 5%. The positive report increased the likelihood the Federal Reserve will vote to raise interest rates when it meets on Dec. 15-

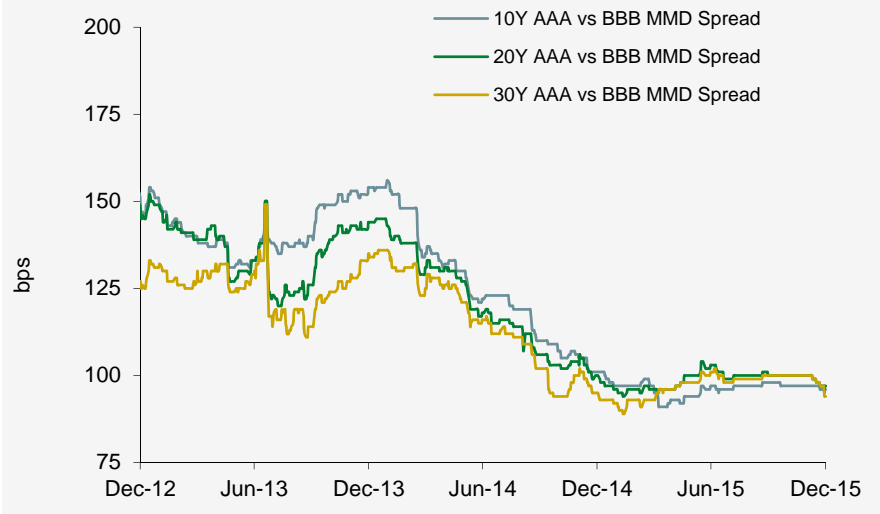
MMD to Treasury Ratios



MMD Rates



AAA MMD to BBB MMD Spreads



Source: Municipal Market Data
Thomson Reuters TM3

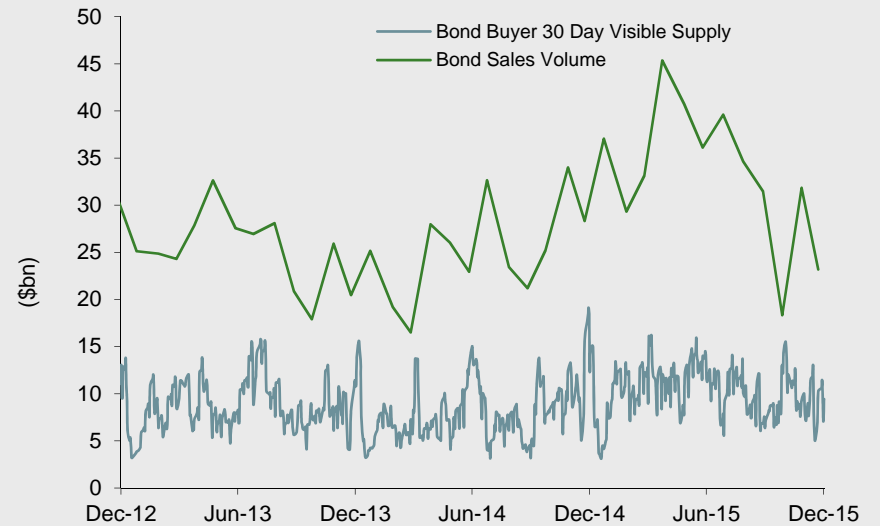
Market Update

Calendar Week of December 7th

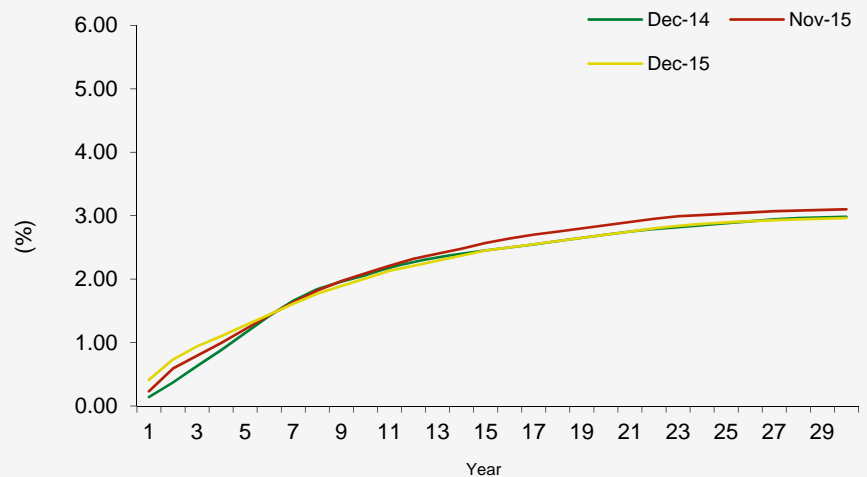
Issue Description	Sale	Par Amount (\$000)	Ratings*		
			Moody's	S&P	Fitch
Lancaster ISD U/L Tax Ref Bonds	12/7	\$ 45,681	A2	A	NR
San Antonio Elec & Gas Sys Rev Bonds, Series 2015B	12/7	\$ 45,660	Aa1	AA	AA+
City of Mansfield WW & Swr Rev Ref & Improv Bonds	12/7	\$ 27,315	Aa2	AA+	AA
Harris Co. MUD No. 290 U/L Tax Ref Bonds, Series 2015	12/7	\$ 22,000	A2	NR	NR
Montgomery ISD U/L Tax School Ref Bonds, Series 2015A	12/7	\$ 16,830	Aaa	AAA	NR
City of Mansfield GO Ref & Imp Bonds, Series 2016	12/7	\$ 16,520	Aa2	AA+	AA+
City of Mansfield Comb Tax & Rev C/O, Series 2016	12/7	\$ 15,835	Aa2	AA+	AA+
Sherman ISD U/L Tax Ref Bonds, Series 2015	12/7	\$ 9,630	Aaa	NR	NR
Paris ISD Ref Bonds, Series 2016	12/7	\$ 9,180	Aaa	NR	NR
Nacogdoches ISD U/L Tax Ref Bonds, Series 2015	12/7	\$ 8,650	A1	NR	NR
Total		\$ 217,301			
Total Weekly Supply		\$ 685,393			

	Thru 12/03/15	Thru 11/30/14	Thru 11/30/13	Thru 11/30/12
Total Supply YTD	\$46,253,880	\$41,770,937	\$39,652,113	\$47,886,167

Bond Buyer 30-Day Visible Supply**



AAA MMD yield curve***

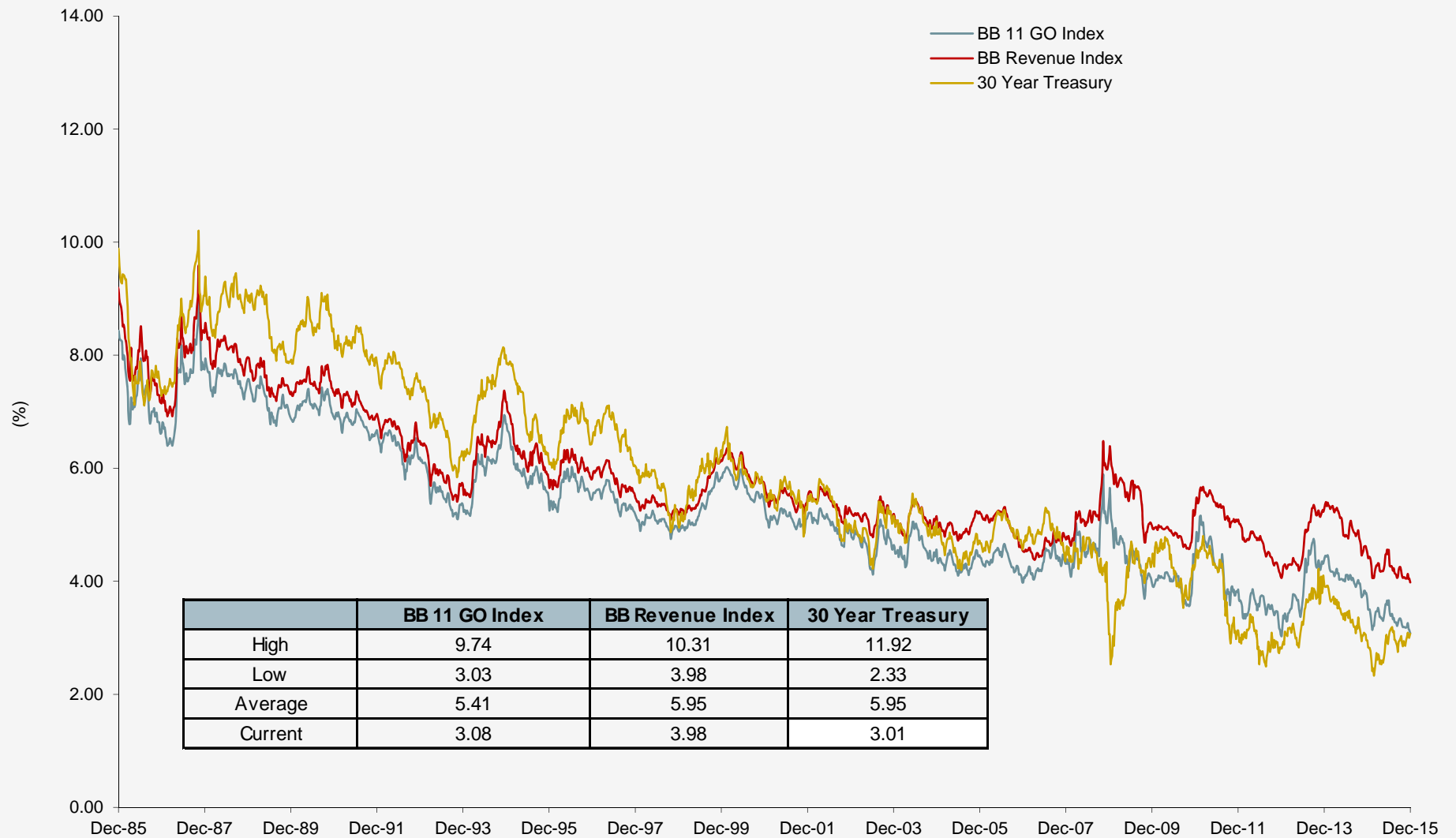


*Rating reflects underlying or insured rating, as appropriate

**Source: Bond Buyer

***Source: Municipal Market Data

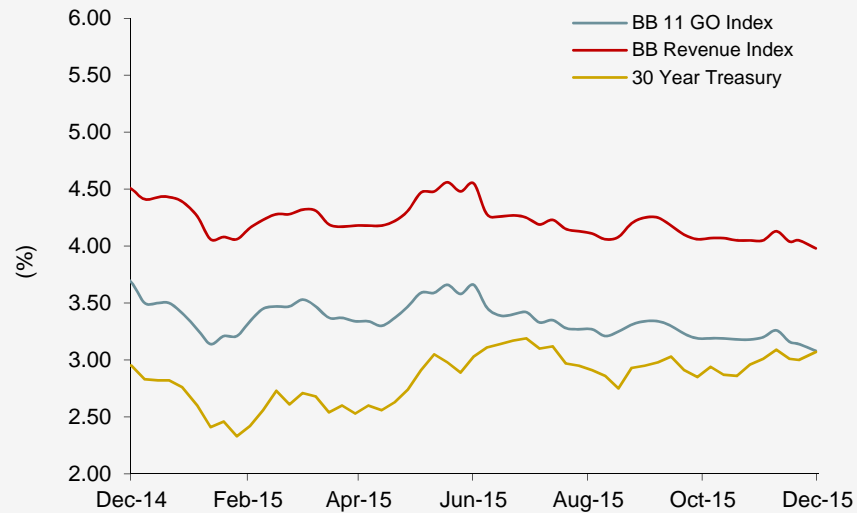
Bond Buyer Indices vs. 30 Year Treasury: 30 Year History



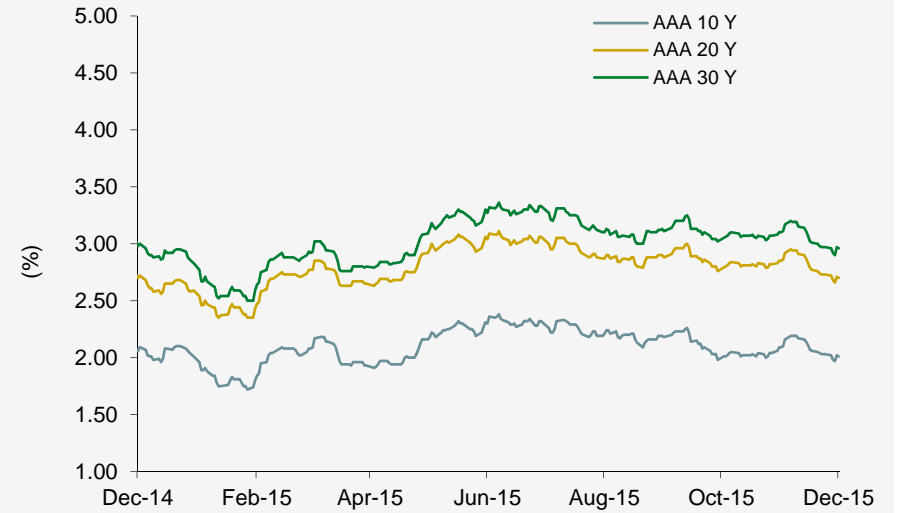
Source: Bond Buyer

Tax-Exempt and Treasury Spreads: 1 Year History

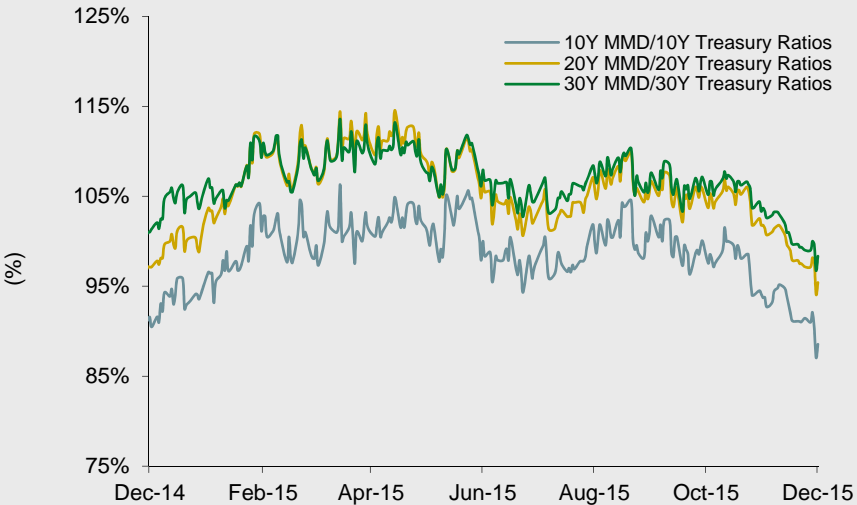
Bond Buyer Indices vs. 30 Year Treasury



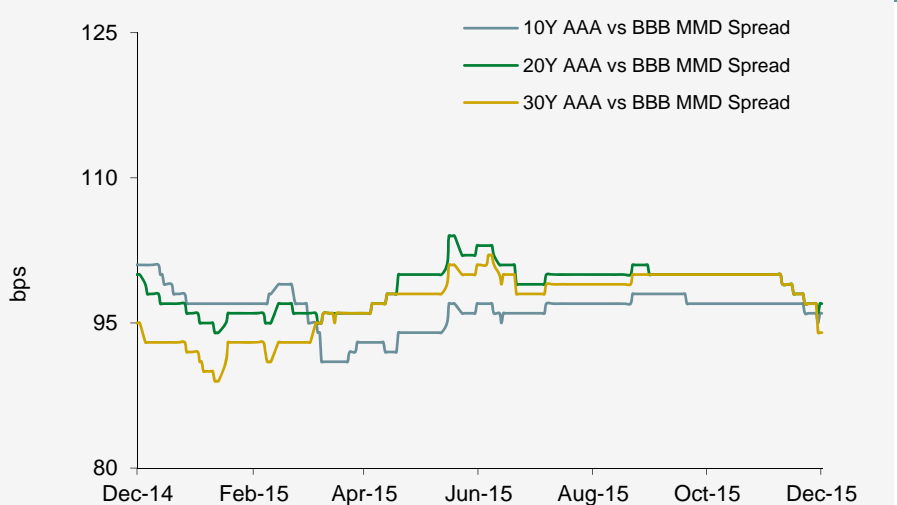
MMD Rates



MMD to Treasury Ratios



AAA MMD to BBB MMD Spreads



Source: Municipal Market Data
Thomson Reuters TM3
Bond Buyer

Firm Update

Estrada Hinojosa is a Leader with a Growing National Footprint...

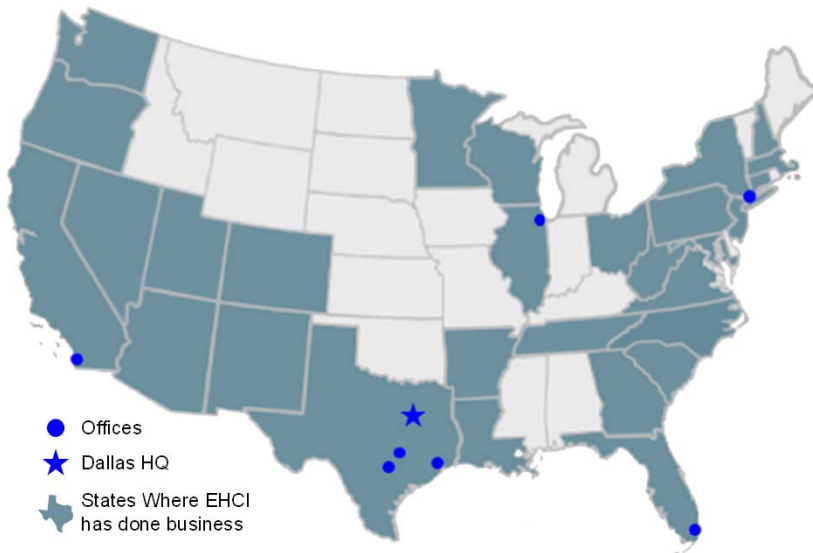
■ In 24 years the Firm has completed:

- ✓ Financial Advisory Services- 1,560 financings totaling \$95.4 billion
- ✓ Underwriting Services- 2,539 financings totaling \$250.6 billion, including 189 competitive underwriting transactions totaling \$21.5 billion

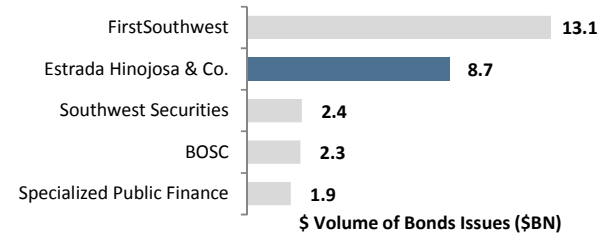
■ For calendar year ended 2014, the Firm completed:

- ✓ Financial Advisory Services- 117 financings totaling \$11.1 billion
- ✓ Underwriting Services- 178 financings totaling \$28.0 billion, including 56 competitive underwriter transactions totaling \$7.1 billion

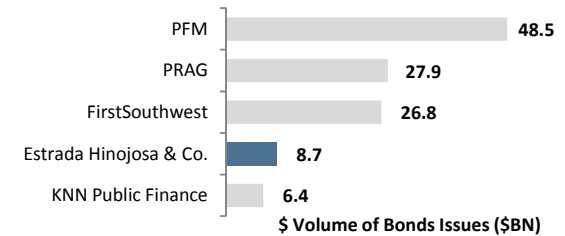
Map of Estrada Hinojosa Offices



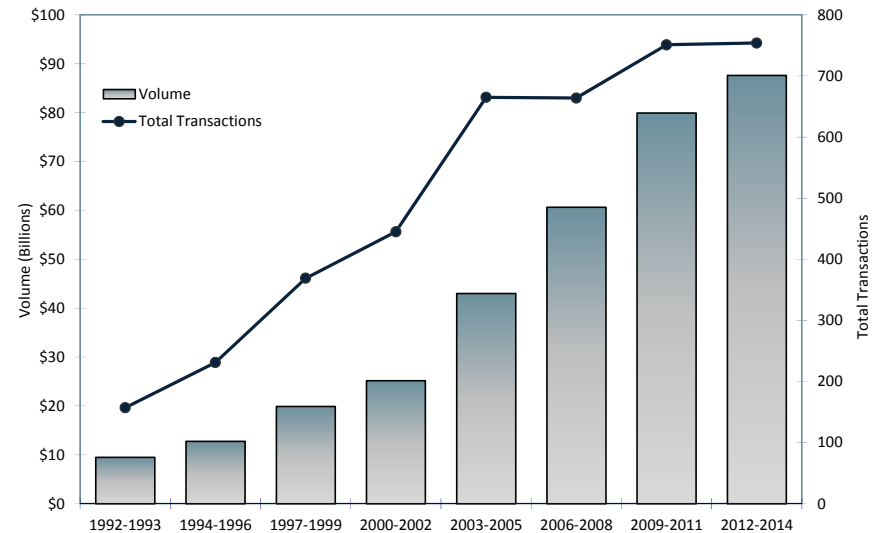
2014 Texas Financial Advisory Rankings (Par Amount)



2014 U.S. Financial Advisory Rankings (Par Amount)



**Estrada Hinojosa
Growth of FA and Underwriting Experience**



Representative Financial Advisory Recent Transactions

<p>\$8.745 Million</p> <p>City of Brownsville, Texas</p>  <p>Combination Tax and Revenue Certificates of Obligation, Series 2015</p> <p>Financial Advisor</p>	<p>\$4.500 Million</p> <p>Cameron County, Texas</p>  <p>Revenue & Tax Bonds, Series 2015 (State Highway 550 Project)</p> <p>Financial Advisor</p>	<p>\$30.150 Million</p> <p>City of Arlington, Texas</p>  <p>Water & Wastewater System Revenue Bonds, Series 2015A&B</p> <p>Financial Advisor</p>	<p>\$32.245 Million</p> <p>City of Allen, Texas</p>  <p>General Obligation Refunding and Improvement Bonds, Series 2015</p> <p>Financial Advisor</p>	<p>\$25.160 Million</p> <p>Laredo Community College District</p>  <p>Limited Tax Ref Bds, Series 2015 Combined Fee Rev Ref Bds, Series 2015</p> <p>Financial Advisor</p>
<p>\$13.895 Million</p> <p>Brownsville Independent School District</p>  <p>U/L Tax Ref Bds, Series 2015 Maintenance Tax Notes, Series 2015</p> <p>Financial Advisor</p>	<p>\$2.905 Million</p> <p>City of South Padre Island, Texas</p>  <p>Tax Notes, Series 2015</p> <p>Financial Advisor</p>	<p>\$55.535 Million</p> <p>Hidalgo County, Texas</p>  <p>C/Os, Series 2015A Limited Tax Ref Bds, Series 2015B Limited Tax Ref Bds, Taxable Series 2015C</p> <p>Financial Advisor</p>	<p>\$11.590 Million</p> <p>City of Edinburg, Texas</p>  <p>Combination Tax & Rev C/Os, Series 2015A Combination Tax & Revenue C/Os, Series 2015B</p> <p>Financial Advisor</p>	<p>\$604.260 Million</p> <p>City of Dallas, Texas</p>  <p>Waterworks & Sewer System Rev Ref Bds, Series 2015A Waterworks & Sewer System Rev Ref Bds, Taxable Series 2015B</p> <p>Financial Advisor</p>
<p>\$250.000 Million</p> <p>City of San Antonio, Texas</p>  <p>Electric and Gas Systems Variable Rate Junior Lien Rev Ref Bds, Series 2015A&B</p> <p>Financial Advisor</p>	<p>\$23.580 Million</p> <p>Del Mar College District</p>  <p>Limited Tax Refunding and Improvement Bonds, Series 2015</p> <p>Financial Advisor</p>	<p>\$13.500 Million</p> <p>Dallas Housing Finance Corporation</p>  <p>Multifamily Housing Revenue Bonds (The Park at the Cliff Creek Apartments), Series 2015</p> <p>Financial Advisor</p>	<p>\$29.745 Million</p> <p>Sharyland Independent School District</p>  <p>Unlimited Tax Refunding Bonds, Series 2015</p> <p>Financial Advisor</p>	<p>\$115.06 Million</p> <p>Metropolitan Transit Authority of Harris County, Texas</p>  <p>Sales & Use Tax Bonds, Series 2015A and Contractual Obligations, Series 2015B</p> <p>Financial Advisor</p>

Financial Advisor

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AI -52664

14.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Consider and approve a resolution amending an order authorizing the issuance, sale, and delivery of Hidalgo County, Texas Drainage District No. 1 Unlimited Tax Improvement Bonds, Series 2008, dated April 1, 2008, in the original principal amount of \$72,000,000 to allow the Drainage District to fund a refunding escrow in accordance with the provisions of Texas Government Code, section 1207.00, et seq., and making other provisions incident thereto

BACKGROUND

Fiscal Impact

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 01:56 PM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Lora Briones		Started On: 12/11/2015 01:24 PM
Final Approval Date: 12/11/2015		

AI -52638

15.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted For: Raul Sesin

Submitted By: Lora Briones, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Approval of the 2016 Revised Salary Schedule for Hidalgo County Drainage
District No. 1

BACKGROUND

Fiscal Impact

Attachments

salary schedule

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/11/2015 02:34 PM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Lora Briones		Started On: 12/10/2015 05:38 PM
Final Approval Date: 12/11/2015		

HIDALGO COUNTY
Department Of Budget & Management

Drainage District
2016 Recommended Salaries
As of December 14, 2015

CURRENT POSITION TITLE	PROPOSED POSITION TITLE	2016 PROPOSED SALARY	2015 CURRENT SALARY	% COLA	COLA INC.	2015 BASE SALARY	ADDITIONAL INCREASE	2016 RECOMM. SALARY	PROPOSED VS RECOMM. POSITION	RECOMMENDED POSITION TITLE	TYPE OF ACTION	6/5
1 ASSISTANT INVENTORY CLERK	INVENTORY SPECIALIST II	30,846.82	29,377.92	3%	881.34	30,259.26	706.74	30,966.00	\$	INVENTORY SPECIALIST II	RECLASSIFICATION	66-53
2 ASSISTANT TIRE MECHANIC	ASSISTANT TIRE MECHANIC EQUIPMENT	33,606.97	32,628.13	3%	978.84	33,606.97	930.03	34,537.00	\$	TIRE REPAIR SPECIALIST	COLA(S&G AD)	67-54
3 ASST. SHREDDER SUPERVISOR	EQUIPMENT SUPERVISOR I-IV	34,297.97	32,664.74	3%	979.94	33,644.68	5,726.32	39,371.00	\$	ASST FIELD SUPERVISOR	RECLASSIFICATION	G10-51
4 BACKHOE OPERATOR	EQUIPMENT OPERATOR I-IV	30,259.26	29,377.92	3%	881.34	30,259.26	288.74	30,548.00	\$	EQUIPMENT OPERATOR I	TITLE CHANGE(S&G AD)	G5-55
5 BACKHOE OPERATOR	EQUIPMENT OPERATOR I-IV	30,259.26	29,377.92	3%	881.34	30,259.26	288.74	30,548.00	\$	EQUIPMENT OPERATOR I	TITLE CHANGE(S&G AD)	G5-55
6 BACKHOE OPERATOR	EQUIPMENT OPERATOR I-IV	29,229.41	28,378.06	3%	851.34	29,229.41	380.59	29,610.00	\$	EQUIPMENT OPERATOR I	TITLE CHANGE(S&G AD)	G5-54
7 CREW LEADER	CONSTRUCTION & MAINTENANCE/TECH EQUIPMENT	36,024.86	34,309.39	3%	1,029.28	35,338.67	4,032.33	39,371.00	\$	ASST FIELD SUPERVISOR	RECLASSIFICATION	G10-51
8 DOZER OPERATOR	EQUIPMENT OPERATOR I-IV	33,353.39	31,765.14	3%	952.95	32,718.09	3,736.91	36,455.00	\$	EQUIPMENT OPERATOR III	RECLASSIFICATION	G9-51
9 DOZER OPERATOR	EQUIPMENT OPERATOR I-IV	33,353.39	31,765.14	3%	952.95	32,718.09	3,736.91	36,455.00	\$	EQUIPMENT OPERATOR III	RECLASSIFICATION	G9-51
10 DOZER OPERATOR	EQUIPMENT OPERATOR I-IV	33,353.39	31,765.14	3%	952.95	32,718.09	3,736.91	36,455.00	\$	EQUIPMENT OPERATOR III	RECLASSIFICATION	G9-51
11 DOZER OPERATOR	EQUIPMENT OPERATOR I-IV	32,718.09	31,765.14	3%	952.95	32,718.09	724.91	33,443.00	\$	EQUIPMENT OPERATOR II	TITLE CHANGE(S&G AD)	G7-53
12 DRAGLINE OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE(S&G AD)	G9-56
13 DRAGLINE OPERATOR	EQUIPMENT OPERATOR I-IV	43,603.78	41,527.41	3%	1,245.82	42,773.23	1,235.77	44,009.00	\$	EQUIPMENT OPERATOR III	RECLASSIFICATION	G11-52
14 DRAINAGE DISTRICT FOREMAN	ASSISTANT FIELD OPERATIONS EQUIPMENT	62,000.00	53,560.00	3%	1,606.80	55,166.80	7,311.20	62,478.00	\$	ASST FIELD OPERATIONS	PARITY	G16-51
15 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	43,603.78	41,527.41	3%	1,245.82	42,773.23	1,235.77	44,009.00	\$	EQUIPMENT OPERATOR IV	RECLASSIFICATION	G11-52
16 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR IV	TITLE CHANGE(S&G AD)	G9-56
17 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	43,603.78	41,527.41	3%	1,245.82	42,773.23	1,235.77	44,009.00	\$	EQUIPMENT OPERATOR III	RECLASSIFICATION	G11-52
18 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR IV	TITLE CHANGE(S&G AD)	G9-56
19 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE(S&G AD)	G9-56
20 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE(S&G AD)	G9-56
21 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE(S&G AD)	G9-56
22 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE(S&G AD)	G9-56
23 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE(S&G AD)	G9-56
24 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE(S&G AD)	G9-56
25 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	43,603.78	41,527.41	3%	1,245.82	42,773.23	1,235.77	44,009.00	\$	EQUIPMENT OPERATOR IV	RECLASSIFICATION	G11-52
26 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	42,773.23	41,527.41	3%	1,245.82	42,773.23	61.77	42,835.00	\$	EQUIPMENT OPERATOR III	COLA(S&G AD)	G9-56
27 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	43,603.78	41,527.41	3%	1,245.82	42,773.23	1,235.77	44,009.00	\$	EQUIPMENT OPERATOR III	RECLASSIFICATION	G11-52
28 EXCAVATOR OPERATOR	EQUIPMENT OPERATOR I-IV	43,603.78	41,527.41	3%	1,245.82	42,773.23	1,235.77	44,009.00	\$	EQUIPMENT OPERATOR IV	RECLASSIFICATION	G11-52
29 FIELD CONST SUPERVISOR	CONSTRUCTION FIELD OPERATIONS DIRECTOR	53,469.38	51,912.02	3%	1,557.36	53,469.38	488.62	53,958.00	\$	FIELD SUPERVISOR	RECLASSIFICATION	G12-53
30 DIR	FIELD SUPERVISOR	77,049.95	59,049.95	3%	1,771.50	60,821.45	17,882.55	78,704.00	\$	FIELD OPERATIONS DIRECTOR	RECLASSIFICATION	G19-51
31 FIELD SUPERVISOR	FIELD SUPERVISOR	48,579.56	47,164.62	3%	1,414.94	48,579.56	557.44	49,137.00	\$	FIELD SUPERVISOR	TITLE CHANGE(S&G AD)	G12-53
32 FIELD SUPERVISOR	FIELD SUPERVISOR	49,522.86	47,164.62	3%	1,414.94	48,579.56	557.44	49,137.00	\$	FIELD SUPERVISOR	TITLE CHANGE(S&G AD)	G12-53
33 FIELD SUPERVISOR	FIELD SUPERVISOR	48,579.56	47,164.62	3%	1,414.94	48,579.56	557.44	49,137.00	\$	FIELD SUPERVISOR	TITLE CHANGE(S&G AD)	G12-53
34 FIELD SUPERVISOR	FIELD SUPERVISOR	47,549.50	46,164.56	3%	1,384.94	47,549.50	1,587.50	49,137.00	\$	FIELD SUPERVISOR	TITLE CHANGE(S&G AD)	G12-53
35 FLEET MANAGER	FLEET SPECIALIST	48,579.56	47,164.62	3%	1,414.94	48,579.56	557.44	49,137.00	\$	FLEET SPECIALIST	TITLE CHANGE(S&G AD)	G12-53
36 HEAVY EQUIP. SUPERVISOR	EQUIPMENT OPERATOR I-IV OR	48,579.56	47,164.62	3%	1,414.94	48,579.56	557.44	49,137.00	\$	FIELD SUPERVISOR	RECLASSIFICATION	G12-53

HIDALGO COUNTY
 Department Of Budget & Management

Drainage District
 2016 Recommended Salaries
 As of December 14, 2015

CURRENT POSITION TITLE	PROPOSED POSITION TITLE	2016 PROPOSED SALARY	2015 CURRENT SALARY	% COLA	COLA INC.	2016 BASE SALARY	ADDITIONAL INCREASE	2016 RECOMM. SALARY	PROPOSED VS RECOMM.	RECOMMENDED POSITION TITLE	TYPE OF ACTION	G/S
37 INVENTORY CLERK	CONSTRUCTION & MAINTENANCE	31,896.91	30,967.87	3%	929.04	31,896.91	82.09	31,979.00	\$	INVENTORY SPECIALIST II	TITLE CHANGE/S&G ADJ	G6-S4
38 LABORER	CONSTRUCTION & MAINTENANCE	29,803.08	28,383.89	3%	851.52	29,235.40	2,019.60	31,255.00	\$	RECLASSIFICATION		G7-S1
39 LABORER	CONSTRUCTION & MAINTENANCE	29,803.08	28,383.89	3%	851.52	29,235.40	2,019.60	31,255.00	\$	RECLASSIFICATION		G7-S1
40 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
41 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
42 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
43 LABORER	CONSTRUCTION & MAINTENANCE	29,803.08	28,383.89	3%	851.52	29,235.40	2,019.60	31,255.00	\$	RECLASSIFICATION		G7-S1
44 LABORER	CONSTRUCTION & MAINTENANCE	29,803.08	28,383.89	3%	851.52	29,235.40	2,019.60	31,255.00	\$	RECLASSIFICATION		G7-S1
45 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
46 LABORER	CONSTRUCTION & MAINTENANCE	29,803.08	28,383.89	3%	851.52	29,235.40	7,219.60	36,455.00	\$	EQUIPMENT OPERATOR III	RECLASSIFICATION	G9-S1
47 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
48 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
49 LABORER	CONSTRUCTION & MAINTENANCE	29,803.08	28,383.89	3%	851.52	29,235.40	2,019.60	31,255.00	\$	RECLASSIFICATION		G7-S1
50 LABORER	CONSTRUCTION & MAINTENANCE	29,803.08	28,383.89	3%	851.52	29,235.40	2,019.60	31,255.00	\$	RECLASSIFICATION		G7-S1
51 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
52 LABORER	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
53 LABORER I	OPERATOR I-IV EQUIPMENT	36,000.08	28,383.89	3%	851.52	29,235.41	7,489.59	36,725.00	\$	RECLASSIFICATION		G7-S6
54 LABORER I	CONSTRUCTION & MAINTENANCE	29,235.41	28,383.89	3%	851.52	29,235.41	374.59	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
55 LABORER I	CONSTRUCTION & MAINTENANCE	29,235.41	28,383.89	3%	851.52	29,235.41	374.59	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
56 LABORER I	CONSTRUCTION & MAINTENANCE	29,235.40	28,383.89	3%	851.52	29,235.40	374.60	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
57 LABORER I	CONSTRUCTION & MAINTENANCE	29,235.41	28,383.89	3%	851.52	29,235.41	374.59	29,610.00	\$	TITLE CHANGE/S&G ADJ		G5-S4
58 LOADER OPERATOR	EQUIPMENT OPERATOR I-IV	30,259.34	29,378.00	3%	881.34	30,259.34	995.66	31,255.00	\$	TITLE CHANGE/S&G ADJ		G7-S1
59 LOADER OPERATOR	EQUIPMENT OPERATOR I-IV	30,259.34	29,378.00	3%	881.34	30,259.34	995.66	31,255.00	\$	TITLE CHANGE/S&G ADJ		G7-S1
60 MAINTAINER	EQUIPMENT OPERATOR I-IV	40,908.72	38,960.69	3%	1,168.82	40,129.51	153.49	40,283.00	\$	TITLE CHANGE/S&G ADJ		G9-S4
61 MAINTENANCE	CONSTRUCTION & MAINTENANCE	29,235.41	24,719.97	3%	741.60	25,461.57	4,148.43	29,610.00	\$	RECLASSIFICATION		G5-S4
62 MECHANIC	MECHANIC I - IV	38,095.30	36,985.73	3%	1,109.57	38,095.30	383.70	38,479.00	\$	TITLE CHANGE/S&G ADJ		G8-S5
63 MECHANIC	MECHANIC I - IV	38,095.30	36,985.73	3%	1,109.57	38,095.30	383.70	38,479.00	\$	TITLE CHANGE/S&G ADJ		G8-S5
64 MECHANIC	MECHANIC I - IV	38,095.30	36,985.73	3%	1,109.57	38,095.30	383.70	38,479.00	\$	TITLE CHANGE/S&G ADJ		G8-S5
65 MECHANIC	MECHANIC I - IV	38,095.30	36,985.73	3%	1,109.57	38,095.30	1,275.70	39,371.00	\$	TITLE CHANGE/S&G ADJ		G10-S1
66 MOTORGRADER OPERATOR	EQUIPMENT OPERATOR I-IV	40,908.72	38,960.69	3%	1,168.82	40,129.51	153.49	40,283.00	\$	EQUIPMENT OPERATOR III	TITLE CHANGE/S&G ADJ	G9-S4

HIDALGO COUNTY

Department Of Budget & Management

Drainage District 2016 Recommended Salaries As of December 14, 2015

CURRENT POSITION TITLE	PROPOSED POSITION TITLE	2016 PROPOSED SALARY	2015 CURRENT SALARY	% COLA	COLA INC.	2016 BASE SALARY	ADDITIONAL INCREASE	2016 RECOMM. SALARY	PROPOSED VS RECOMM.	RECOMMENDED POSITION TITLE	TYPE OF ACTION	G/S
67 PUMP MAINT. OPERATOR	PUMP MAINTENANCE OPERATOR I-IV	31,662.10	30,154.38	3%	904.63	31,059.02	195.98	31,255.00	\$ (407.10)	MAINTENANCE IV	RECLASSIFICATION	G7-S1
68 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
69 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
70 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
71 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
72 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
73 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
74 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
75 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
76 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
77 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
78 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
79 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
80 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
81 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
82 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
83 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
84 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
85 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
86 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	30,049.87	28,618.93	3%	858.57	29,477.50	1,777.50	31,255.00	\$	EQUIPMENT II	RECLASSIFICATION	G7-S1
87 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
88 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
89 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
90 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
91 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
92 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
93 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
94 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
95 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
96 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
97 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
98 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	28,447.64	27,619.07	3%	828.57	28,447.64	224.36	28,672.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S3
99 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	28,447.64	27,619.07	3%	828.57	28,447.64	224.36	28,672.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S3
100 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
101 SHREDDER OPERATOR	EQUIPMENT OPERATOR I-IV	29,477.50	28,618.93	3%	858.57	29,477.50	132.50	29,610.00	\$	EQUIPMENT I	TITLE CHANGE/S&G ADJ	G5-S4
102 TRUCK DRIVER II	TRUCK DRIVER I-III	35,500.00	32,628.13	3%	978.84	33,606.97	(163.97)	33,443.00	\$ (2,057.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S3

HIDALGO COUNTY
Department Of Budget & Management

Drainage District
2016 Recommended Salaries
As of December 14, 2015

CURRENT POSITION TITLE	PROPOSED POSITION TITLE	2016 PROPOSED SALARY	2015 CURRENT SALARY	% COLA	COLA INC.	2016 BASE SALARY	ADDITIONAL INCREASE	2016 RECOMM. SALARY	PROPOSED VS RECOMM.	RECOMMENDED POSITION TITLE	TYPE OF ACTION	G/S
103 TRUCK DRIVER II	TRUCK DRIVER I-III	33,500.00	31,628.06	3%	948.84	32,576.91	0.09	32,577.00	\$ (923.00)	TRUCK DRIVER III	RECLASSIFICATION	G7-S2
104 WELDER	WELDER I- IV	42,996.63	40,949.17	3%	1,228.48	42,177.64	657.36	42,835.00	\$ (161.63)	WELDER SPECIALIST III	TITLE CHANGE/S&G ADJ	G9-S6
105 WELDER	WELDER I- IV	42,996.63	40,949.17	3%	1,228.48	42,177.64	657.36	42,835.00	\$ (161.63)	WELDER SPECIALIST III	TITLE CHANGE/S&G ADJ	G9-S6
111 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
112 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
113 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
114 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
115 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
116 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
117 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
118 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
119 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
120 TRUCK DRIVER	TRUCK DRIVER I-	33,500.00	30,343.00	3%	910.29	31,253.29	1.71	31,255.00	\$ (2,245.00)	TRUCK DRIVER III	TITLE CHANGE/S&G ADJ	G7-S1
121 SHREDDER SUPERVISOR	FORMAN II	44,789.01	43,484.48	3%	1,304.53	44,789.01	93.99	44,883.00	\$ 93.99	ASST FIELD SUPERVISOR	TITLE CHANGE/S&G ADJ	G10-S5
TOTAL	COLA/ADJUSTME	5,104,237.91	4,809,865.64		144,295.97	4,954,161.61	162,589.39	5,116,751.00	12,513.09			

NEW POSITIONS

106	EQUIPMENT OPERATOR I-IV PURCHASE ORDER SPECIALIST I	37,080.00	-	3%	-	37,731.00	-	37,731.00	\$ 651.00	EQUIPMENT OPERATOR III	NEW POSITION	G9-S2
107	ENGINEER III	87,550.00	-	3%	-	36,455.00	-	36,455.00	\$ 405.00	PROCUREMENT SPECIALIST II	NEW POSITION	G9-S1
108	ENGINEERING TECH IV SURVEYING TECH II	46,350.00	-	3%	-	85,000.00	-	85,000.00	\$ (2,550.00)	ENGINEER III	NEW POSITION	G20-S1
109	ENGINEERING TECH IV SURVEYING TECH II	36,050.00	-	3%	-	45,923.00	-	45,923.00	\$ (427.00)	ENGINEERING TECH IV SURVEYING TECH II	NEW POSITION	G12-S1
110	ENGINEERING TECH IV SURVEYING TECH II	36,050.00	-	3%	-	39,371.00	-	39,371.00	\$ 3,321.00	ENGINEERING TECH IV SURVEYING TECH II	NEW POSITION	G10-S1
TOTAL NEW POSITIONS:		243,080.00				244,480.00		244,480.00				1,400.00

GRAND TOTAL: 5,347,317.91 4,809,865.64 144,295.97 5,198,641.61 5,361,231.00 13,913.09

AI -52624

16.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted By: Monica Badillo,
EXECUTIVE OFFICE

Department: EXECUTIVE OFFICE

Information

CAPTION

In accordance with Water Code Section 49.057 and Subchapter A of Government Code, Section 2254, requesting approval to engage the firm of Atlas, Hall & Rodriguez, LLP with regard to Notice of Claim - Josie Moreno & Tonie Moreno, et al v. Drainage District No. 1 at the same rate as established between the County of Hidalgo and the Firm

BACKGROUND

Fiscal Impact

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	12/10/2015 02:12 PM
Final Approval	Monica Badillo	12/11/2015 05:41 PM
Form Started By: Monica Badillo		Started On: 12/10/2015 10:56 AM
Final Approval Date: 12/11/2015		

AI -52607

17. C.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted By: Monica Badillo,
EXECUTIVE OFFICE

Department: EXECUTIVE OFFICE

Information

CAPTION

Notice of Claim - Josie Moreno & Tonie Moreno, et al v. Drainage District No. 1

BACKGROUND

Fiscal Impact

Attachments

No file(s) attached.

Form Review

Form Started By: Monica Badillo

Started On: 12/09/2015 03:02 PM

Final Approval Date: 12/09/2015

AI -52608

18. C.

DRAINAGE DISTRICT

Meeting Date: 12/15/2015

Submitted By: Monica Badillo,
EXECUTIVE OFFICE

Department: EXECUTIVE OFFICE

Information

CAPTION

Notice of Claim - Josie Moreno & Tonie Moreno, et al v. Drainage District No. 1

BACKGROUND

Fiscal Impact

Attachments

No file(s) attached.

Form Review

Form Started By: Monica Badillo

Started On: 12/09/2015 03:02 PM

Final Approval Date: 12/09/2015