

2. Non-Exclusive Services of Engineer. Hidalgo County reserves the right to request these services from other sources other than the Engineer and shall not be in violation of any terms or conditions of this Agreement.

3. Term. This Agreement is for a period of **one (1) year**, effective October 4, 2016, and will expire October 4, 2017 or unless sooner terminated as provided herein. The Engineer will not begin to work or incur costs until authorized in writing by the County with each "Work Authorization" particularly described in Exhibit "D".

4. Compensation. As consideration for rendering the Services provided for in this Agreement, the County agrees to pay the Engineer the amounts specified in Exhibit "C" attached hereto payable against written invoice submitted by Engineer. The maximum amount payable under this Agreement shall not exceed the amount for each work authorization unless an amendment is executed as provided hereinafter. The Engineer shall submit periodic requests for payment within (30) thirty days after completion of each Work Authorization. The request for payment shall be made using forms acceptable to the County and shall show the total amount earned to the date of submission and the amount due and payable as of the date of the current billing. Upon receipt of said request for payment, County shall submit a requisition for payment for said Services in the customary manner provided for payments utilized by Hidalgo County, Texas. Engineer agrees to separately account for the receipt and/or expenditure of funds received pursuant to this Agreement and to keep accurate books and records of all such receipts and/or expenditures. All payments to Engineer shall be mailed to the address shown in numbered paragraph 24 herein.

5. Inspection of Work. The County has the right at all reasonable times to inspect or otherwise evaluate the work performed hereunder and the premises in which it is being performed. If any inspection or evaluation is made on the premises of the Engineer, or of a subcontractor, the Engineer shall provide and require its subcontractor to provide all reasonable facilities and assistance for the safety and convenience of the inspectors in the performance of their duties. All inspections and evaluations shall be performed in such a manner as will not unduly delay their work.

6. Amendments. If it becomes necessary at any time during this Agreement to change the scope of Services, the Agreement period, the maximum amount payable, the complexity, or the character of this Agreement, an amendment shall be executed by use of a (Supplemental Agreement Form) more particularly described in Exhibit "E" within the agreement. The County retains the right to reject any such amendment proposed by the Engineer. Any such amendments shall be made in writing, agreed to by all parties hereto, and duly executed before the end of the Agreement as specified. If the County finds it necessary to require changes in completed work because of errors made by the Engineer, the County shall require the Engineer to correct the work at no cost to the County and without amendment to the Agreement. If the changes are made at the request of the County and are not due to errors of the Engineer, the County will reimburse the Engineer for the additional work at the same rate of pay established in Exhibit "C," "Engineer's Rates." If payment for the additional work will cause the maximum amount payable under this Agreement to be exhausted, an amendment shall be proposed in accordance with all State procurement laws.

7. Reporting. The Engineer shall promptly advise the County in writing of events which have a significant impact upon the Agreement, including:

- a. Problems, delays, or adverse conditions which will materially affect the ability to meet time schedules and goals, or preclude the attainment of project work units by established time periods. This disclosure shall be accompanied by a statement of the action taken, or contemplated and any County or, if Federal Funds are involved, Federal assistance needed to resolve the situation.
- b. Favorable developments or events which enable meeting time schedules and goals to be met sooner than anticipated or which are producing more work units than originally projected.

8. Ownership of Documents. Upon completion or termination of this Agreement, all documents prepared by the Engineer or furnished to the Engineer by the County shall be delivered to and become the property of the County. All sketches, photographs, calculations, and other data prepared

under this Agreement shall be made available, upon request, to the County without restriction or limitation on their further use. The Engineer may, at its own expense, have copies made of the documents or any other data furnished to the County under this Agreement.

9. Suspension of Work. Should County desire to suspend the work under this Agreement, but not terminate this Agreement, the County shall provide thirty (30) calendar days verbal notification to Engineer, followed by written confirmation from the County to Engineer to that effect. The thirty-day notice may be waived as agreed in writing by both the County and Engineer to that effect. 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 County to the Engineer. The sixty-day notice may be waived as agreed in writing by both the County and Engineer. If the County suspends the work, the Termination Date as identified above is not affected and this Agreement will terminate on the date specified.

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

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

All applicable study reports shall be submitted in preliminary form for approval by the County before the final report is issued. The County'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 Authorization as provided by Exhibit "D",

attached hereto, the County shall review the approved Work Authorization with the Engineer to determine the corrective action needed by either the County or the Engineer.

The Engineer shall promptly advise the County 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:

- a. problems, delays, adverse conditions which will materially affect the ability to attain Agreement 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
- b. favorable developments or events which enable meeting the Work Schedule goals sooner than anticipated.

11. Independent Contractor. Engineer must comply with all applicable Hidalgo County policies and with any applicable federal, state or local laws, regulations, orders or ordinances applicable to the Services provided by Engineer under this Agreement. Notwithstanding the foregoing sentence, Engineer represents and maintains that it is an Independent Contractor and is not an employee of Hidalgo County, Texas or any agency thereof, and represents and warrants that it does not desire or request any fringe benefits provided to employees of Hidalgo County, Texas, and/or any agency thereof, including, but not limited to benefits associated with Hidalgo County's civil service program. Engineer agrees to be responsible for any federal income tax, withholding or social security tax liability that might arise from payments received hereunder.

12. Subcontracting and Assignment. The Engineer shall not assign subconsultant or transfer the Engineer's interest in this Agreement without the prior written consent of the County. The Engineer shall bind every subconsultant by written agreement to observe all the terms of this Agreement

to the extent that they may be applicable to each subconsultant. No subcontractor relieves the Engineer of any responsibilities under this Agreement.

13. Voluntary Termination. County may terminate this Agreement at any time for any reason or no reason at all upon giving thirty (30) days prior written notice to the Engineer.

14. Insurance. Engineer agrees to provide liability insurance covering its activities in providing the Services for County in an amount not less than the minimum amounts prescribed by the Texas Tort Claims Act, §100.001, et seq., Texas Civil Practices and Remedies Code, and shall furnish County a certificate issued by the insurer that such insurance is in full force and effect.

15. 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 tax. A false statement concerning corporation's franchise tax status shall constitute grounds for termination of the Agreement at the sole option of the County.

16. No Assignment. Except as otherwise herein provided, Engineer may not assign the obligations or rights under this Agreement to any person without the prior written consent of County.

17. Conflict. Nothing in this Agreement shall be construed so as to require the commission of any act contrary to law, and whenever there is any conflict between any provision of this Agreement and any present or future law, ordinance or administrative, executive or judicial regulation, order or decree, or amendment thereof, contrary to which the parties have no legal right to Agreement, the latter shall prevail, but in such event the affected provision or provisions of this Agreement shall be modified only to the extent necessary to bring them the legal requirements and only during the time such conflict exists.

18. Termination by County. If Engineer fails to deliver quality Services, fails to achieve the defined goals, outcomes, strategies and outputs required by County, or if Engineer fails to comply with any conditions in this Agreement, then County shall have the right to terminate this Agreement upon the giving of ten (10) days prior written notice to Engineer.

19. **No Waiver.** No waiver by County of any breach of any provision of this Agreement shall be deemed to be a waiver of any preceding or succeeding breach of the same or any other provision hereof.

20. **Entire Agreement.** This Agreement contains the entire agreement between the parties hereto, and each party acknowledges that neither has made (either directly or through any agent or representative) any representations or agreements in connection with this Agreement not specifically set forth herein. This Agreement may be modified or amended only by agreement in writing executed by County and Engineer, and not otherwise.

21. **Venue.** This Agreement shall be construed under and in accordance with the laws of the State of Texas, and all obligations of the parties created hereunder are performable in Hidalgo County, Texas. The parties hereby consent to personal jurisdiction in Hidalgo County, Texas.

22. **Hold Harmless.** In the event Engineer should cause, either directly or indirectly, damage, loss, destruction, liability, or claims against the other party as a result of intentional conduct, negligence or otherwise, Engineer shall hold harmless and indemnify County from any and all obligations, liabilities, cause of action, lawsuits, damages, and assessments, including legal fees, etc., that from the Engineer's intentional actions or negligence. This indemnification clause shall survive this Agreement and be enforceable as a separate agreement in the event its survival and enforcement becomes necessary.

23. **Attorney's Fees.** In the unlikely event that a dispute occurs which is litigated, or a cause of action in law or equity is filed concerning the operation, construction, interpretation, or enforcement of this Agreement, the losing party shall bear the cost of the attorney's fees incurred by the prevailing party and any and all costs applicable thereto, including, but not limited to, court costs, deposition fees, expert witness fees, out-of-pocket expenses and travel expenses which are incurred by the prevailing party.

24. **Notices.** Except as may be otherwise specifically provided in this Agreement, all notices, demands, requests or communications required or permitted hereunder shall be in writing and shall either be (i) personally delivered against a written receipt, or (ii) sent by a registered or certified mail, return

receipt requested, postage prepaid and addressed to the parties at the addresses set forth below, or at such other addresses as may have been theretofore specified by written notice delivered in accordance herewith:

If to County: **Hidalgo County Urban County**
Attn: Diana R. Serna, UCP Director
427 East Duranta Avenue, Suite 107
Alamo, Texas 78516

If to Engineer: **South Texas Infrastructure Group, LLC.**
Attn: Julio Cerda, P.E., Owner
900 S. Stewart Road, Suite 11,
Mission, Texas 78572

Each notice, demand, request or communication which shall be delivered or mailed in the manner described above shall be deemed sufficiently given for all purposes at such time as it is personally delivered to the addresses or, if mailed at such time as it is deposited in the United States mail.

25. Executions of Documents. The parties hereto covenant and agree that they will execute such other and further instruments and documents as are or may become necessary or convenient to effectuate and carry out the terms of this Agreement.

26. Binding Agreement. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, executors, administrators, legal representatives, successors, and assigns where permitted by this Agreement.

27. Gender. All pronouns used in this Agreement shall include the other gender, whether used in the masculine, feminine or neutral gender, and the singular shall include the plural whenever and as often as may be appropriate.

28. Authority. The execution and performance of this Agreement by County and Engineer have been duly authorized by all necessary laws, resolutions or corporate action, and this Agreement constitutes the valid and enforceable obligations of County and Engineer in accordance with its terms.

29. Professional Seal. All documents and data furnished by the Engineer to the County shall bear Professional seal of a licensed Engineer employed by the Engineer.

30. Commitment of Current Revenues Only. In the event that, during any term hereof, the Commissioners Court does not appropriate sufficient funds to meet the obligations of County under this Agreement, County may terminate this Agreement upon ninety (90) days written notice to the Engineer. County 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 County pursuant to the provisions of Tex. Loc. Govt. Code Ann. ' 271.903 (Vernon Supp. 1996).

31. Immunities. Nothing in this Agreement is intended to and County does not hereby waive, release or relinquish any right to assert any of the defenses County enjoys by virtue of the state or federal constitution, laws, rules or regulations, and any sovereign, official or qualified immunity available to County as to any claim or action of any person, entity, or individual against County.

EXECUTED as of the day and year first written above.

HIDALGO COUNTY

By: _____
Ramon Garcia, County Judge

ATTEST:

Arturo Guajardo Jr., County Clerk

Approved by Commissioners' Court on: October 4, 2016.

ENGINEER:
South Texas Infrastructure Group

By: _____

Printed Name Julio Cerda P.E.

Title: Owner

APPROVED AS TO FORM:
Atlas, Hall & Rodriguez, L.L.P.
By: Stephen L. Crain, Attorney
On this: July 12, 2016.

ATTACHMENTS:

- EXHIBIT A** -Scope of Services to be provided by the County
- EXHIBIT B** -Scope of Services to be provided by the Engineer
- EXHIBIT C** -Engineer's Rates
- EXHIBIT D** -Work Authorization Form
- EXHIBIT E** -Supplemental Agreement Form
- EXHIBIT F** -Certificates of Insurance

EXHIBIT A

-Scope of Services to be provided by the County

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

General:

The Owner will provide to the Engineer the following:

- 1) Provide the authorization to proceed with services through coordination with the project consulting and design Engineer.
- 2) Payment for work performed by the Engineer and accepted by the Owner in accordance with Article 3 of this Agreement.
- 3) Assistance to the Engineer, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the Engineer 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 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 Exhibit "A" attached to this Agreement.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by Engineer.
- 7) Provide the authorization to proceed with services on project by project basis through consulting design and construction Engineer.

EXHIBIT "B"

SERVICES TO BE PROVIDED BY THE ENGINEER

The work to be performed by the Engineer shall consist of providing engineering services required for the preparation of plans, specifications and estimates (PS&E) and related documents, for the Mesquite Ave. Project from US 83 to Pike Ave. These services may include preparing roadway, hydraulic design, and surveying necessary to support the design process.

Specific Work To Be Performed

PROJECT LOCATIONS

Surveying services provided will be for Mezquite Ave Project from US 83 to Pike Ave.

SURVEYING SERVICES TO BE PROVIDED

DESIGN SURVEYS AND CONSTRUCTION SURVEYS: FUNCTION CODE 150

This includes performance of surveys associated with the gathering of survey data for topography, cross-sections, and other related work in order to design a project, or during layout and staking of projects for construction.

1. PURPOSE

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

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

2. 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.

3. TASKS TO BE COMPLETED

3.1. Design Surveys

The City will request design surveys on an as needed basis. The surveys will include, but are not limited to the following:

The Surveyor shall:

- 3.1.1. Obtain or collect data to create cross-sections and digital terrain models.
- 3.1.2. Locate existing utilities.
- 3.1.3. Locate topographical features and existing improvements.
- 3.1.4. Provide details of existing drainage features, such as culverts, manholes, etc.
- 3.1.5. Locate existing right-of-ways.
- 3.1.6. Review right-of-way maps.

4. TECHNICAL REQUIREMENTS

- 4.1. Design surveys shall be performed under the supervision of a RPLS currently registered with the TBPLS.
- 4.2. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the City or based on acceptable methods conducted by the Surveyor, shall meet the standards of accuracy required by the State.

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, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

- 4.3. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the City or based on acceptable methods conducted by the Surveyor, shall meet the standards of accuracy required by the State.

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, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

- 4.4. Side shots or short traverse procedures used to determine horizontal and vertical locations shall meet the following criteria:
 - 4.4.1. Side shots or short traverses shall begin and end on horizontal and vertical ground control as described above.

- 4.4.2. Standards, procedures, and equipment (may be GPS Equipment, LIDAR, Total Stations, etc.) used shall be such that horizontal locations relative to the control may be reported within the following limits:
- a. Bridges and other roadway structures: less than 0.1 of one foot.
 - b. Utilities and improvements: less than 0.2 of one foot.
 - c. Cross-sections and profiles: less than 1 foot.
 - d. Bore holes: less than 3 feet.
- 4.4.3. Standards, procedures, and equipment (may be GPS Equipment, LIDAR, Total Stations, etc.) used shall be such that vertical locations relative to the control may be reported within the following limits:
- a. Bridges and other roadway structures: less than 0.02 of one foot.
 - b. Utilities and improvements: less than 0.1 of one foot.
 - c. Cross-sections and profiles: less than 0.2 of one foot.
 - d. Bore holes: less than 0.5 of one foot.

5. DELIVERABLES

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

- 5.1. Digital Terrain Models (DTM) in a format acceptable by the City and State.
- 5.2. Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
- 5.3. Computer printouts or other tabulations summarizing the results of field surveys.
- 5.4. Digital files or media acceptable by the City and State containing field survey data.
- 5.5. 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.
- 5.6. Field survey notes, as electronic and/or hard copies.
- 5.7. An 8 ½ inch by 11 inch survey control data sheet for each 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.
- 5.8. 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.

5.9. Survey reports in a format requested by the State.

6. AUTOMATION REQUIREMENTS

6.1. Planimetric design files (DGN) shall be fully compatible with the State's *MicroStation® 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 computer systems without further modification or conversion. All files shall incorporate only those feature codes currently being used by the State.

6.3. DTM shall be fully compatible with the State's *GEOPAK* system without further modification or conversion. All DTM fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

Traffic Control

The Surveyor shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the Texas Manual on Uniform Traffic Control Devices – Part VI 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 Texas Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the Surveyor and approved by the City and State 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 City State's personnel for inspection upon request.

Underground Excavation

The Surveyor shall contact the "Texas Excavation Safety System, Inc." (DIGTESS), or other Notification Center, to mark underground utilities prior to digging the holes for monuments, as necessary. The Surveyor will maintain documentation of all notification calls.

Additional Requirements

1. ACCURACY REQUIREMENTS

All standards, procedures and equipment used by the Surveyor shall be such that the results of the survey will be in compliance with Board Rule 663.15 as promulgated by the TBPLS.

2. ADHERENCE TO SCHEDULE

If at any time during the contract period the Surveyor determines that he will be unable to meet a scheduled submission date, he shall notify the City in writing immediately. This notification shall consist of an explanation as to the reason(s) for the delay and a revised submission schedule, which shall to the extent possible, incorporate a plan to recover days lost as a result of subject delay.

If at any time during the contract period the Surveyor encounters unforeseen circumstances which may materially affect the scope, complexity or character of the work authorized by the State, the Surveyor shall notify the City and State in writing immediately with a complete description of the circumstances encountered.

3. TRANSMITTAL

All documents submitted to the City shall be accompanied by a letter of transmittal.

4. RIGHT-OF-ENTRY

It shall be the responsibility of the Surveyor to secure permission to enter private property for purposes of survey. **It is the stated policy of the State to make every effort to maintain positive relations with the general public.** In pursuance of that policy, the Surveyor shall not commit acts which will result in damages to private property and the Surveyor will make every effort to comply with the wishes and address the concerns of private property owners.

Compensation

1. Payment requests shall include a Surveyor's invoice.
2. Status Report

With each payment request, the Surveyor shall submit the corresponding 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.

ROADWAY DESIGN CONTROLS: FUNCTION CODE 160

The Engineer shall inform the State of changes made from previous initial meetings regarding each exception, waiver, and variance that may affect the design. The Engineer shall cease all work under this task until the exceptions, waivers, and variances have been resolved between the Engineer and the State unless otherwise directed by the State to proceed. The Engineer shall identify, prepare exhibits and complete all necessary forms for Design Exceptions and Waivers within project limits prior to the 30% Submittal. These exceptions shall be provided to the State for coordination and processing of approvals.

160.1. Roadway Design.

The Engineer shall provide roadway plan and profile drawings using CADD standards as required by the State. The drawings shall consist of a planimetric file of existing features and files of the proposed improvements. The roadway base map shall contain line work that depicts existing surface features obtained from the schematic drawing. Existing major subsurface and surface utilities shall be shown. Existing and proposed right-of-way lines shall be shown. Plan and Profile to be shown on separate or same

sheets (this depends upon width of pavement) for main lanes, frontage roads, and direct connectors.

1.0 The plan view shall contain the following design elements:

- 1.1 Calculated roadway centerlines for mainlanes, ramps, cross streets and frontage roads, as applicable. Horizontal control points shall be shown. The alignments shall be calculated using GEOPAK.
- 1.2. Pavement edges for all improvements (mainlanes, direct connectors, ramps, cross streets, driveways and frontage roads, if applicable).
- 1.3 Lane and pavement width dimensions.
- 1.5 Proposed structure locations, lengths and widths.
- 1.6 Direction of traffic flow on all roadways. Lane lines and arrows indicating the number of lanes shall also be shown.
- 1.7 Drawing scale shall be 1"=100'
- 1.8 Control of access line, & ROW lines and easements.
- 1.9 Limits of rip rap, block sod, and seeding.
- 1.10 Existing utilities and structures.
- 1.11 Benchmark information

2.0 The profile view shall contain the following design elements:

- 2.1 Calculated profile grade for proposed roadway. Vertical curve data, including "K" values shall be shown.
- 2.2 Existing and proposed profiles along the proposed centerline of the proposed roadway
- 2.3 Calculated vertical clearances at grade separations and overpasses, taking into account the appropriate superelevation rate, superstructure depth and required clearance.
- 2.4 Drawing vertical scale to be 1"=10'.

160.4. Typical Sections:

Typical sections shall be required for all proposed and existing roadways and structures. Typical sections shall include width of travel lanes, border widths, curb offsets, and ROW.

160.6. Plan Preparation. The Engineer shall prepare roadway plans, profiles and typical sections for the proposed improvements. The drawings will provide an overall view of the roadway and existing ground elevations with respect to the various storm design frequencies for the length of the project. This scope of services and the corresponding cost proposal are based on the Engineer preparing plans to construct roadway.

160.7. Pavement Design. The Engineer shall develop the pavement design for this project in accordance with the City's Street Standards and/or the Geotech's pavement design.

SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION (PERMANENT); FUNCTION CODE 162

162.1. Signing. The Engineer shall prepare drawings, specifications and details for all signs. The Engineer shall coordinate with the City and the State (and other Engineers as required) for overall temporary, interim and final signing strategies and placement of signs outside contract limits. The Engineer shall:

1. Prepare sign detail sheets for large guide signs showing dimensions, lettering, shields, borders, corner radii, etc., and shall provide a summary of large and small signs.
2. Designate the shields to be attached to guide signs.
3. Illustrate and number the proposed signs on plan sheets.
4. Select each sign foundation from State Standards.

162.1. Pavement Marking. The Engineer shall detail both permanent and temporary pavement markings and channelization devices on plan sheets. The Engineer shall coordinate with the City and the State (and other Engineers as required) for overall temporary, interim, and final pavement marking strategies. The Engineer shall select Pavement markings from the latest State standards.

The Engineer shall provide the following information on sign/pavement marking layouts:

- Roadway layout.
- Center line with station numbering.
- Designation of arrow used on exit direction signs
- Culverts and other structures that present a hazard to traffic.
- Location of utilities.
- Existing signs to remain, to be removed, or to be relocated.
- Proposed signs (illustrated, numbered and size).
- Proposed overhead sign bridges to remain, to be revised, removed or relocated.
- Proposed overhead sign bridges, indicating location by plan.
- Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation.
- Quantities of existing pavement markings to be removed.
- Proposed delineators and object markers.
- The location of interchanges, mainlanes, grade separations, frontage roads and ramps.
- The number of lanes in each section of proposed highway and the location of changes in numbers of lanes.
- Right-of-way limits.
- Direction of traffic flow on all roadways.

163.2. Traffic Control Plan, Detours, Sequence of Construction. The Engineer shall prepare Traffic Control Plans (TCP) for the project.

1. The Engineer shall show proposed traffic control devices at grade intersections during each construction phase (stop signs, flag person, signals, etc.).
2. Develop each TCP to provide continuous, safe access to each adjacent property during all phases of construction and to preserve existing access.
3. Prepare each TCP in coordination with the city and/or county. The TCP shall include interim signing for every phase of construction.
4. Maintain continuous access to abutting properties during all phases of the TCP. The Engineer shall develop a list of each abutting property along its alignment.
5. Make every effort to prevent detours and utility relocations from extending beyond the proposed Right-of-way lines. The Engineer shall identify and coordinate with all utility companies for relocations required.

6. Describe the type of work to be performed for each phase of sequence of construction and any special instructions (e.g. storm sewer, culverts, bridges, railing, illumination, signals, retaining walls, signing, paving surface sequencing or concrete placement, ROW restrictions, utilities, etc.) that the contractor should be made aware to include limits of construction, obliteration, and shifting or detouring of traffic prior to the proceeding phase.
7. Include the work limits, the location of channelizing devices, positive barrier, location and direction of traffic, work area, stations, pavement markings, and other information deemed necessary for each phase of construction.

163.5. Storm Water Pollution Prevention Plans (SW3P). The Engineer shall develop SW3P, on separate sheets from (but in conformance with) the TCP, to minimize potential impact to receiving waterways. The SW3P shall include text describing the plan, quantities, type, phase and locations of erosion control devices and any required permanent erosion control

163.10. Estimate. The Engineer shall independently develop and report quantities necessary to construct contract in standard State bid format at the specified milestones and Final PS&E submittals. The Engineer shall prepare each construction estimates using Estimator.

163.11. Specifications and General Notes. The Engineer shall identify necessary standard specifications, special specifications, special provisions and the appropriate reference items. The Engineer shall prepare General Notes, Special Specifications and Special Provisions for inclusion in the plans and bidding documents. The Engineer shall provide General Notes, Special Specifications and Special Provisions in the required format.

163.12. General Plans and Task. The Engineer shall develop the following:

1. Develop Project Title Sheet
2. Develop Index of Sheets
3. Develop PS&E Documentation

Deliverables

Plans

The Engineer shall provide the following information at each submittal:

1. 30% Plans Submittal
 - 1.1. 2 sets of 11" x 17" plan sheets for the County Review.
 - 1.2. Estimate of construction cost.
2. 60% Plans Submittal:
 - 2.1. 2 sets of 11" x 17" plan sets for the County review.
 - 2.2. Estimate of construction cost.

WAs Used

Contract No.

3. Review Submittal (90%)
 - 3.1. 2 sets of 11" x 17" plan sheets for the County Review.
 - 3.2. Estimate of construction cost.
 - 3.3. Marked up general notes
 - 3.4. Construction schedule.
 - 3.5. Specifications and Provisions
 - 3.6. Other supporting documents.
4. Final submittal (100%).
 - 4.1. 1 original signed and sealed set (11" x 17" blue ink) and 4 paper sets of 11" x 17"

Exhibit "C"

South Texas Infrastructure Group, L.L.C.

Contract Rate 2016

Labor/Staff Classification	Contract Rate
Principal	\$ 187.00
Project Manager	\$ 161.00
Project/Design Engineer	\$ 125.00
EIT	\$ 98.00
Senior Engineer Technician	\$ 95.00
Engineer Tech	\$ 85.00
Senior CADD Technician	\$ 80.00
Junior CAAD Technician	\$ 79.00
Admin/Clerical	\$ 50.00

R.O.W. Surveying Services, L.L.C.

(Sub-Contractor)

Contract Rate 2016

Labor/Staff Classification	Contract Rate
Survey PM	\$ 124.00
RPLS	\$ 125.00
Survey Technician	\$ 82.00
4-Man Survey Crew	\$ 174.00
3-Man Survey Crew	\$ 155.00
2-Man Survey Crew	\$ 130.00
Admin/Clerical	\$ 50.00

Contract Rates include labor, overhead, and profit.

Other Direct Expenses:	Cost
8 1/2" X 11" copies	\$1.00/sheet
11" X 17" copies	\$1.50/sheet
11" X 17" Mylar	\$2.00/sheet

Updated 09/25/2015

FEE BREAKDOWN

BUDGET LUMP SUM RATE BASIS OF PAYMENT

South Texas Infrastructure Group, L.L.C.

Project: 2013 Penitas Street Improvements (Mesquite Avenue)
 County: Hidalgo County, Texas
 From: Pike Ave To: US 83
 Description of Work: PS&E

TASK AND DESCRIPTION	HOURLY RATE										Total Hours	Cost	
	Principal	Project Manager	Project Engineer	E.I.T.	Senior Engineer Technician	Engineer Technician	Senior CADD Technician	Junior CADD Technician	Administrative/Clerical	Total			
	\$187.00	\$161.00	\$125.00	\$98.00	\$95.00	\$85.00	\$80.00	\$79.00	\$50.00				
Roadway Design Plans & Specifications													
Design Plans													
1.0 Roadway Design Plan and Profiles	0	1	16	24	0	28	0	0	0	0	0	69	\$ 6,893.00
2.0 Drainage Culvert Design Plan and Profile	0	1	16	24	0	28	0	0	0	0	0	69	\$ 6,893.00
3.0 Details and Technical Specifications	0	1	18	16	0	16	0	0	0	0	0	51	\$ 5,339.00
Roadway Construction Management													
1.0 Construction Management	2	0	24	16	0	0	0	0	0	0	0	42	\$ 4,942.00
Subtotal Hours	2	3	74	80	0	72	0	0	0	0	0	231	
Subtotal Cost	\$374.00	\$483.00	\$9,250.00	\$7,840.00	\$0.00	\$6,120.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$ 24,067.00
TASK AND DESCRIPTION													
Project	Project	Project	Survey Technician	4-man Survey Crew	3-man Survey Crew	2-man Survey Crew	Abstractor	Sub Surface Test Hole	Administrative/			Total Hours	Cost
Principal	RPLS	Survey	Technician	Survey Crew	Survey Crew	Survey Crew	Abstractor	Level A (Quality)	Cherical				
\$124.00	\$125.00	\$82.00	\$82.00	\$174.00	\$155.00	\$130.00	\$85.00	\$2,500.00	\$50.00				
HOURLY RATE													
Surveying													
A. Control Hz and Vt													
I. Primary Project Control													
i. Establish Primary Control													
0	1	0	0	0	2	0	0	0	0	0	0	3	\$ 435.00
II. Secondary Project Control													
i. Set additional secondary control points as needed													
0	1	0	0	0	0	0	0	0	0	0	0	1	\$ 125.00
ii. Horizontal values established with RTK or VRS													
0	1	0	0	2	0	0	0	0	0	0	0	3	\$ 435.00
iii. Vertical values established with digital level													
0	1	0	0	2	0	0	0	0	0	0	0	3	\$ 435.00
III. Setting benchmarks													
i. Setting Benchmarks @ 1500'(ft) intervals													
0	1	0	0	2	0	0	0	0	0	0	0	3	\$ 435.00
B. Design Surveys													
i. Topo and Cross-sections													
0	1	1	1	6	0	0	0	0	0	0	0	8	\$ 1,137.00
ii. Locate visible utilities													
0	1	1	1	1	0	0	0	0	0	0	0	3	\$ 362.00
iii. Utilities													
0	0	1	1	1	0	0	0	0	0	0	0	2	\$ 411.00
iv. Proposed CL on Existing													
0	1	1	1	1	1	0	0	0	0	0	0	4	\$ 536.00
v. Cross section intersecting streets													
0	1	1	1	0	0	0	0	0	0	0	0	3	\$ 411.00
vi. Drive ways and turnouts													
0	0	1	1	0	0	0	0	0	0	0	0	3	\$ 381.00
vii. Existing Storm Drain													
0	0	1	1	0	0	0	0	0	0	0	0	2	\$ 256.00
viii. Outfalls													
0	0	1	1	0	0	0	0	0	0	0	0	2	\$ 256.00
Subtotal Hours	0	9	8	6	18	0	0	0	0	0	0	41	
Subtotal Cost	\$0.00	\$1,449.00	\$1,000.00	\$388.00	\$1,710.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$ 5,615.00
Total Cost =												\$29,682.00	



September 27, 2016

Hidalgo County Urban County Program
Attn: Ms. Diana Serna, Director
427 E. Duranta Avenue, Suite 107
Alamo, Texas 78516

RE: 2015 Peñitas Street Improvements
(Mesquite Avenue Project)
Project No.: 5015-60-0311-5000-6000
Best and Final Offer

Dear Ms. Serna,

This letter serves as acceptance of the 2015 Peñitas Street Improvements (Mesquite Avenue Project). We are providing our best and final offer for this project in the amount of \$29,682.00 Attached you will find Exhibit D-1 (Budget) on the offer that reflects the amount stated above.

If you have any questions, please let us know. I may be reached at (956) 451-2670.

Sincerely,

Julio Cerda, P.E.
President

EXHIBIT D

-Work Authorization Form

HIDALGO COUNTY Professional Engineering Services

WORK AUTHORIZATION NO. 1

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioner's Court**, hereinafter called the "**Owner**," and, **South Texas Infrastructure Group, LLC**, professional engineers of **Mission**, _____ Texas, hereinafter called "**Engineer**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the "engineering services" to provide **Professional Engineering 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 **\$29,682.00** 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 4 of the Agreement.

PART 4. FUNDING

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

Account No. 5015-60-0311-5000-6000-UCP-GVG

Purchase Order Number _____ (**MUST BE INCLUDED AFTER CC APPROVAL**)

PART 5. PERIOD OF SERVICE

This Work Authorization shall become effective on the date of final acceptance of the parties hereto, and terminate **upon completion of scopes of the work authorization**.

PART 6. RESPONSIBILITIES AND OBLIGATIONS

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

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and Confirmation by Hidalgo County Urban County Program, Diana Serna (Director) as to content and detail of this **Work Authorization No. 1** .

**HIDALGO COUNTY
URBAN COUNTY PROGRAM**

BY: _____
Diana R. Serna, Director

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on October 4, 2016 as indicated below and effective as of 4th day of October, 2016 .

**THE ENGINEER:
SOUTH TEXAS INFRASTRUCTURE GOUP**

**THE OWNER:
HIDALGO COUNTY**

By: **Julio Cerda P.E Owner**

By: **Ramon Garcia, County Judge**

ATTEST:

Arturo Guajardo Jr., County Clerk

ATTACHMENT "A"
-Scope of Services to be provided by the County

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

General:

The Owner will provide to the Engineer the following:

- 1) Provide the authorization to proceed with services through coordination with the project consulting and design Engineer.
- 2) Payment for work performed by the Engineer and accepted by the Owner in accordance with Article 3 of this Agreement.
- 3) Assistance to the Engineer, as necessary, to obtain the required data and information from other local, regional, State and Federal agencies the Engineer 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 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 Exhibit "A" attached to this Agreement.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by Engineer.
- 7) Provide the authorization to proceed with services on project by project basis through consulting design and construction Engineer.

ATTACHMENT "B"

SERVICES TO BE PROVIDED BY THE ENGINEER

The work to be performed by the Engineer shall consist of providing engineering services required for the preparation of plans, specifications and estimates (PS&E) and related documents, for the Mesquite Ave. Project from US 83 to Pike Ave. These services may include preparing roadway, hydraulic design, and surveying necessary to support the design process.

Specific Work To Be Performed

PROJECT LOCATIONS

Surveying services provided will be for Mezquite Ave Project from US 83 to Pike Ave.

SURVEYING SERVICES TO BE PROVIDED

DESIGN SURVEYS AND CONSTRUCTION SURVEYS: FUNCTION CODE 150

This includes performance of surveys associated with the gathering of survey data for topography, cross-sections, and other related work in order to design a project, or during layout and staking of projects for construction.

1. PURPOSE

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

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

2. 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.

3. TASKS TO BE COMPLETED

3.1. Design Surveys

The City will request design surveys on an as needed basis. The surveys will include, but are not limited to the following:

The Surveyor shall:

- 3.1.1. Obtain or collect data to create cross-sections and digital terrain models.
- 3.1.2. Locate existing utilities.
- 3.1.3. Locate topographical features and existing improvements.
- 3.1.4. Provide details of existing drainage features, such as culverts, manholes, etc.
- 3.1.5. Locate existing right-of-ways.
- 3.1.6. Review right-of-way maps.

4. TECHNICAL REQUIREMENTS

- 4.1. Design surveys shall be performed under the supervision of a RPLS currently registered with the TBPLS.
- 4.2. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the City or based on acceptable methods conducted by the Surveyor, shall meet the standards of accuracy required by the State.

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, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

- 4.3. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the City or based on acceptable methods conducted by the Surveyor, shall meet the standards of accuracy required by the State.

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, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

- 4.4. Side shots or short traverse procedures used to determine horizontal and vertical locations shall meet the following criteria:
 - 4.4.1. Side shots or short traverses shall begin and end on horizontal and vertical ground control as described above.

- 4.4.2. Standards, procedures, and equipment (may be GPS Equipment, LiDAR, Total Stations, etc.) used shall be such that horizontal locations relative to the control may be reported within the following limits:
 - a. Bridges and other roadway structures: less than 0.1 of one foot.
 - b. Utilities and improvements: less than 0.2 of one foot.
 - c. Cross-sections and profiles: less than 1 foot.
 - d. Bore holes: less than 3 feet.
- 4.4.3. Standards, procedures, and equipment (may be GPS Equipment, LiDAR, Total Stations, etc.) used shall be such that vertical locations relative to the control may be reported within the following limits:
 - a. Bridges and other roadway structures: less than 0.02 of one foot.
 - b. Utilities and improvements: less than 0.1 of one foot.
 - c. Cross-sections and profiles: less than 0.2 of one foot.
 - d. Bore holes: less than 0.5 of one foot.

5. DELIVERABLES

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

- 5.1. Digital Terrain Models (DTM) in a format acceptable by the City and State.
- 5.2. Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
- 5.3. Computer printouts or other tabulations summarizing the results of field surveys.
- 5.4. Digital files or media acceptable by the City and State containing field survey data.
- 5.5. 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.
- 5.6. Field survey notes, as electronic and/or hard copies.
- 5.7. An 8 ½ inch by 11 inch survey control data sheet for each 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.
- 5.8. 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.

5.9. Survey reports in a format requested by the State.

6. AUTOMATION REQUIREMENTS

6.1. Planimetric design files (DGN) shall be fully compatible with the State's *MicroStation® 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 computer systems without further modification or conversion. All files shall incorporate only those feature codes currently being used by the State.

6.3. DTM shall be fully compatible with the State's *GEOPAK* system without further modification or conversion. All DTM fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

Traffic Control

The Surveyor shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the Texas Manual on Uniform Traffic Control Devices – Part VI 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 Texas Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the Surveyor and approved by the City and State 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 City State's personnel for inspection upon request.

Underground Excavation

The Surveyor shall contact the "Texas Excavation Safety System, Inc." (DIGTESS), or other Notification Center, to mark underground utilities prior to digging the holes for monuments, as necessary. The Surveyor will maintain documentation of all notification calls.

Additional Requirements

1. ACCURACY REQUIREMENTS

All standards, procedures and equipment used by the Surveyor shall be such that the results of the survey will be in compliance with Board Rule 663.15 as promulgated by the TBPLS.

2. ADHERENCE TO SCHEDULE

If at any time during the contract period the Surveyor determines that he will be unable to meet a scheduled submission date, he shall notify the City in writing immediately. This notification shall consist of an explanation as to the reason(s) for the delay and a revised submission schedule, which shall to the extent possible, incorporate a plan to recover days lost as a result of subject delay.

If at any time during the contract period the Surveyor encounters unforeseen circumstances which may materially affect the scope, complexity or character of the work authorized by the State, the Surveyor shall notify the City and State in writing immediately with a complete description of the circumstances encountered.

3. TRANSMITTAL

All documents submitted to the City shall be accompanied by a letter of transmittal.

4. RIGHT-OF-ENTRY

It shall be the responsibility of the Surveyor to secure permission to enter private property for purposes of survey. **It is the stated policy of the State to make every effort to maintain positive relations with the general public.** In pursuance of that policy, the Surveyor shall not commit acts which will result in damages to private property and the Surveyor will make every effort to comply with the wishes and address the concerns of private property owners.

Compensation

1. Payment requests shall include a Surveyor's invoice.
2. Status Report

With each payment request, the Surveyor shall submit the corresponding 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.

ROADWAY DESIGN CONTROLS: FUNCTION CODE 160

The Engineer shall inform the State of changes made from previous initial meetings regarding each exception, waiver, and variance that may affect the design. The Engineer shall cease all work under this task until the exceptions, waivers, and variances have been resolved between the Engineer and the State unless otherwise directed by the State to proceed. The Engineer shall identify, prepare exhibits and complete all necessary forms for Design Exceptions and Waivers within project limits prior to the 30% Submittal. These exceptions shall be provided to the State for coordination and processing of approvals.

160.1. Roadway Design.

The Engineer shall provide roadway plan and profile drawings using CADD standards as required by the State. The drawings shall consist of a planimetric file of existing features and files of the proposed improvements. The roadway base map shall contain line work that depicts existing surface features obtained from the schematic drawing. Existing major subsurface and surface utilities shall be shown. Existing and proposed right-of-way lines shall be shown. Plan and Profile to be shown on separate or same

sheets (this depends upon width of pavement) for main lanes, frontage roads, and direct connectors.

1.0 The plan view shall contain the following design elements:

- 1.1 Calculated roadway centerlines for mainlanes, ramps, cross streets and frontage roads, as applicable. Horizontal control points shall be shown. The alignments shall be calculated using GEOPAK.
- 1.2. Pavement edges for all improvements (mainlanes, direct connectors, ramps, cross streets, driveways and frontage roads, if applicable).
- 1.3 Lane and pavement width dimensions.
- 1.5 Proposed structure locations, lengths and widths.
- 1.6 Direction of traffic flow on all roadways. Lane lines and arrows indicating the number of lanes shall also be shown.
- 1.7 Drawing scale shall be 1"=100'
- 1.8 Control of access line, & ROW lines and easements.
- 1.9 Limits of rip rap, block sod, and seeding.
- 1.10 Existing utilities and structures.
- 1.11 Benchmark information

2.0 The profile view shall contain the following design elements:

- 2.1 Calculated profile grade for proposed roadway. Vertical curve data, including "K" values shall be shown.
- 2.2 Existing and proposed profiles along the proposed centerline of the proposed roadway
- 2.3 Calculated vertical clearances at grade separations and overpasses, taking into account the appropriate superelevation rate, superstructure depth and required clearance.
- 2.4 Drawing vertical scale to be 1"=10'.

160.4. Typical Sections:

Typical sections shall be required for all proposed and existing roadways and structures. Typical sections shall include width of travel lanes, border widths, curb offsets, and ROW.

160.6. Plan Preparation. The Engineer shall prepare roadway plans, profiles and typical sections for the proposed improvements. The drawings will provide an overall view of the roadway and existing ground elevations with respect to the various storm design frequencies for the length of the project. This scope of services and the corresponding cost proposal are based on the Engineer preparing plans to construct roadway.

160.7. Pavement Design. The Engineer shall develop the pavement design for this project in accordance with the City's Street Standards and/or the Geotech's pavement design.

SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION (PERMANENT); FUNCTION CODE 162

162.1. Signing. The Engineer shall prepare drawings, specifications and details for all signs. The Engineer shall coordinate with the City and the State (and other Engineers as required) for overall temporary, interim and final signing strategies and placement of signs outside contract limits. The Engineer shall:

1. Prepare sign detail sheets for large guide signs showing dimensions, lettering, shields, borders, corner radii, etc., and shall provide a summary of large and small signs.
2. Designate the shields to be attached to guide signs.
3. Illustrate and number the proposed signs on plan sheets.
4. Select each sign foundation from State Standards.

162.1. Pavement Marking. The Engineer shall detail both permanent and temporary pavement markings and channelization devices on plan sheets. The Engineer shall coordinate with the City and the State (and other Engineers as required) for overall temporary, interim, and final pavement marking strategies. The Engineer shall select Pavement markings from the latest State standards.

The Engineer shall provide the following information on sign/pavement marking layouts:

- o Roadway layout.
- o Center line with station numbering.
- o Designation of arrow used on exit direction signs
- o Culverts and other structures that present a hazard to traffic.
- o Location of utilities.
- o Existing signs to remain, to be removed, or to be relocated.
- o Proposed signs (illustrated, numbered and size).
- o Proposed overhead sign bridges to remain, to be revised, removed or relocated.
- o Proposed overhead sign bridges, indicating location by plan.
- o Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation.
- o Quantities of existing pavement markings to be removed.
- o Proposed delineators and object markers.
- o The location of interchanges, mainlanes, grade separations, frontage roads and ramps.
- o The number of lanes in each section of proposed highway and the location of changes in numbers of lanes.
- o Right-of-way limits.
- o Direction of traffic flow on all roadways.

163.2. Traffic Control Plan, Detours, Sequence of Construction. The Engineer shall prepare Traffic Control Plans (TCP) for the project.

1. The Engineer shall show proposed traffic control devices at grade intersections during each construction phase (stop signs, flag person, signals, etc.).
2. Develop each TCP to provide continuous, safe access to each adjacent property during all phases of construction and to preserve existing access.
3. Prepare each TCP in coordination with the city and/or county. The TCP shall include interim signing for every phase of construction.
4. Maintain continuous access to abutting properties during all phases of the TCP. The Engineer shall develop a list of each abutting property along its alignment.
5. Make every effort to prevent detours and utility relocations from extending beyond the proposed Right-of-way lines. The Engineer shall identify and coordinate with all utility companies for relocations required.

6. Describe the type of work to be performed for each phase of sequence of construction and any special instructions (e.g. storm sewer, culverts, bridges, railing, illumination, signals, retaining walls, signing, paving surface sequencing or concrete placement, ROW restrictions, utilities, etc.) that the contractor should be made aware to include limits of construction, obliteration, and shifting or detouring of traffic prior to the proceeding phase.
7. Include the work limits, the location of channelizing devices, positive barrier, location and direction of traffic, work area, stations, pavement markings, and other information deemed necessary for each phase of construction.

163.5. Storm Water Pollution Prevention Plans (SW3P). The Engineer shall develop SW3P, on separate sheets from (but in conformance with) the TCP, to minimize potential impact to receiving waterways. The SW3P shall include text describing the plan, quantities, type, phase and locations of erosion control devices and any required permanent erosion control

163.10. Estimate. The Engineer shall independently develop and report quantities necessary to construct contract in standard State bid format at the specified milestones and Final PS&E submittals. The Engineer shall prepare each construction estimates using Estimator.

163.11. Specifications and General Notes. The Engineer shall identify necessary standard specifications, special specifications, special provisions and the appropriate reference items. The Engineer shall prepare General Notes, Special Specifications and Special Provisions for inclusion in the plans and bidding documents. The Engineer shall provide General Notes, Special Specifications and Special Provisions in the required format.

163.12. General Plans and Task. The Engineer shall develop the following:

1. Develop Project Title Sheet
2. Develop Index of Sheets
3. Develop PS&E Documentation

Deliverables

Plans

The Engineer shall provide the following information at each submittal:

1. 30% Plans Submittal
 - 1.1. 2 sets of 11" x 17" plan sheets for the County Review.
 - 1.2. Estimate of construction cost.
2. 60% Plans Submittal:
 - 2.1. 2 sets of 11" x 17" plan sets for the County review.
 - 2.2. Estimate of construction cost.

3. Review Submittal (90%)
 - 3.1. 2 sets of 11" x 17" plan sheets for the County Review.
 - 3.2. Estimate of construction cost.
 - 3.3. Marked up general notes
 - 3.4. Construction schedule.
 - 3.5. Specifications and Provisions
 - 3.6. Other supporting documents.
4. Final submittal (100%).
 - 4.1. 1 original signed and sealed set (11" x 17" blue ink) and 4 paper sets of 11" x 17"

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 _____, 20__.

**THE ENGINEER:
SOUTH TEXAS INFRASTRUCTURE GROUP**

**THE OWNER:
HIDALGO COUNTY**

By: Julio Cerda P.E., Owner

By: Ramon Garcia, County Judge

ATTEST:

Arturo Guajardo Jr., County Clerk

LIST OF ATTACHMENTS

(as required)