

THE STATE OF TEXAS §

COUNTY OF TRAVIS §

**CONTRACT FOR ENGINEERING SERVICES
Cost Plus Fixed Fee,
Unit Cost, Lump Sum, or Specified Rate
Specific Deliverable with Work Authorizations**

THIS CONTRACT FOR ENGINEERING SERVICES is made by and between the State of Texas acting by and through the Texas Department of Transportation, 125 E. 11th St., Austin, Texas 78701, hereinafter called "State," and **HNTB Corporation**, having its principal business address at **715 Kirk Drive, Kansas City, Missouri, 64105**, hereinafter called "Engineer," for the purpose of contracting for engineering services.

WITNESSETH

WHEREAS, Government Code, Chapter 2254, Subchapter A, "Professional Services Procurement Act," provides for the procurement of engineering services; and

WHEREAS, 43 Texas Administrative Code §9.30 et seq. establishes the Texas Department of Transportation's policies and procedures for contracting for engineering services; and,

WHEREAS, the State desires to contract for engineering services generally described as **providing engineering services to include plans, specifications, and estimates for US 281 in north Bexar County to expand to a six (6) lane expressway and completion of the SL 1604/US 281 Interchange (San Antonio District-15, CSJ: 0253-04-146)**; and,

WHEREAS, the State has selected the Engineer to provide the needed services and the Engineer has agreed to provide the services subject to the terms and conditions hereinafter set forth.

NOW, THEREFORE, the State and the Engineer, in consideration of the mutual covenants and agreements herein contained, do hereby mutually agree as follows.

AGREEMENT

ARTICLE 1. SCOPE OF SERVICES. The State and the Engineer will furnish items and perform those services for fulfillment of the contract as identified in Attachment B, Services to be Provided by the State and Attachment C, Services to be Provided by the Engineer. All services provided by the Engineer will conform to standard engineering practices and applicable rules and regulations of the Texas Engineering Practices Act and the rules of the Texas Board of Professional Engineers.

ARTICLE 2. CONTRACT PERIOD. This contract becomes effective when fully executed by all parties hereto and it shall terminate at the close of business on **July 31, 2020** unless the contract period is: (1) modified by written supplemental agreement prior to the date of termination as set forth in Attachment A, General Provisions, Article 6, Supplemental Agreements; (2) extended due to a work suspension as provided for in Attachment A, Article 3, Paragraph C; or (3) otherwise terminated in accordance with Attachment A, General Provisions, Article 15, Termination. Any work performed or cost incurred before or after the contract period shall be ineligible for reimbursement.

ARTICLE 3. COMPENSATION.

A. Maximum Amount Payable. The maximum amount payable under this contract without modification is shown in Attachment E, Fee Schedule. Payment under this contract beyond the end of the current fiscal biennium is subject to availability of appropriated funds. If funds are not appropriated, this contract shall be terminated immediately with no liability to either party.

B. Basis of Payment. The basis of payment is identified in Attachment E, Fee Schedule. Reimbursement of costs incurred under a work authorization shall be in accordance with Attachment E, Fee Schedule.

C. Reimbursement of Eligible Costs. To be eligible for reimbursement, the Engineer's costs must (1) be incurred in accordance with the terms of a valid work authorization; (2) be in accordance with Attachment E, Fee Schedule; and (3) comply with cost principles set forth at 48 CFR Part 31, Federal Acquisition Regulation (FAR 31). Satisfactory progress of work shall be maintained as a condition of payment.

D. Engineer Payment of Subproviders. No later than ten (10) days after receiving payment from the State, the Engineer shall pay all subproviders for work performed under a subcontract authorized hereunder. The State may withhold all payments that have or may become due if the Engineer fails to comply with the ten-day payment requirement. The State may also suspend the work under this contract or any work authorization until subproviders are paid. This requirement also applies to all lower tier subproviders, and this provision must be incorporated into all subcontracts.

ARTICLE 4. PAYMENT REQUIREMENTS

A. Monthly Billing Statements. The Engineer shall request reimbursement of costs incurred by submitting the original and one copy of an itemized billing statement in a form acceptable to the State. The Engineer is authorized to submit requests for reimbursement no more frequently than monthly and no later than ninety (90) days after costs are incurred.

B. Billing Statement. The billing statement shall show the work authorization number for each work authorization included in the billing, the total amount earned to the date of submission, and the amount due and payable as of the date of the current billing statement for each work authorization. The billing statement shall indicate if the work has been completed or if the billing is for partial completion of the work. The fixed fee will be paid in proportion to the percentage of work completed per work authorization.

C. Overhead Rates. The Engineer shall use the provisional overhead rate indicated in Attachment E. If a periodic escalation of the provisional overhead rate is specified in Attachment E, the effective date of the revised provisional overhead rate must be included. For lump sum contracts, the overhead rate remains unchanged for the entire contract period.

D. Thirty Day Payments. Upon receipt of a billing statement that complies with all invoice requirements set forth in this Article, the State shall make a good faith effort to pay the amount which is due and payable within thirty (30) days.

E. Withholding Payments. The State reserves the right to withhold payment of the Engineer's billing statement in the event of any of the following: (1) If a dispute over the work or costs thereof is not resolved within a thirty day period; (2) pending verification of satisfactory work performed; (3) the Engineer becomes a delinquent obligor as set forth in Section 231.006 of the Family Code; (4) required reports are not received; or (5) the State Comptroller of Public Accounts will not issue a warrant to the Engineer. In the event that payment is withheld, the State shall notify the Engineer and give a remedy that would allow the State to release the payment.

F. Required Reports.

(1) As required in Attachment H, Disadvantaged Business Enterprise or Historically Underutilized Business Program Requirements, the Engineer shall submit Progress Assessment Reports to report actual payments made to Disadvantaged Business Enterprises or Historically Underutilized Businesses. One copy shall be submitted with each billing statement and one copy shall be submitted to the address included in Attachment H, Disadvantaged Business Enterprise or Historically Underutilized Business Program Requirements.

(2) Prior to contract closeout, the Engineer shall submit a Final Report (Exhibit H-4) to the address set forth in Attachment H.

(3) The Engineer shall submit a separate report with each billing statement showing the percent completion of the work accomplished during the billing period and the percent completion to date, and any additional written report requested by the State to document the progress of the work.

G. Subproviders and Suppliers List. Pursuant to requirements of 43 Texas Administrative Code §9.50 et seq., the Engineer must provide the State a list (Exhibit H-5/DBE or Exhibit H-6/HUB) of all Subproviders and suppliers that submitted quotes or proposals for subcontracts. This list shall include subproviders and suppliers names, addresses, telephone numbers, and type of work desired.

H. Debt to the State. If the State Comptroller of Public Accounts is prohibited from issuing a warrant or initiating an electronic funds transfer to the Engineer because of a debt owed to the State, the State shall apply all payment due the Engineer to the debt or delinquent tax until the debt or delinquent tax is paid in full.

I. Audit. The state auditor may conduct an audit or investigation of any entity receiving funds from the state directly under the contract or indirectly through a subcontract under the contract. Acceptance of funds directly under the contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

ARTICLE 5. WORK AUTHORIZATIONS. The State will issue work authorizations using the form included in Attachment D (Work Authorizations and Supplemental Work Authorizations) to authorize all work under this contract. The Engineer must sign and return a work authorization within seven (7) working days after receipt. Refusal to accept a work authorization may be grounds for termination of the contract. The State shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to work not directly associated with or prior to the execution of a work authorization. Terms and conditions governing the use of work authorizations are set forth in Attachment A, General Provisions, Article 1.

ARTICLE 6. SIGNATORY WARRANTY. The undersigned signatory for the Engineer hereby represents and warrants that he or she is an officer of the organization for which he or she has executed this contract and that he or she has full and complete authority to enter into this contract on behalf of the firm. These representations and warranties are made for the purpose of inducing the State to enter into this contract.

ARTICLE 7. All notices to either party by the other required under this agreement shall be delivered personally or sent by certified or U.S. mail, postage prepaid, addressed to such party at the following addresses:

Engineer:	State:
<p style="text-align: center;">Project Manager HNTB Corporation 130 East Travis Street, Ste., 200 San Antonio, Texas 78205</p>	<p style="text-align: center;">Director, Professional Engineering Procurement Services Texas Department of Transportation 125 E. 11th Street Austin, Texas 78701</p>

All notices shall be deemed given on the date so delivered or so deposited in the mail, unless otherwise provided herein. Either party may change the above address by sending written notice of the change to the other party. Either party may request in writing that such notices shall be delivered personally or by certified U.S. mail and such request shall be honored and carried out by the other party.

ARTICLE 8. INCORPORATION OF PROVISIONS. Attachments A through H are attached hereto and incorporated into this contract as if fully set forth herein.

IN WITNESS WHEREOF, the **State** and the **Engineer** have executed this contract in duplicate.

THE ENGINEER

THE STATE OF TEXAS



 (Signature)
 Carlos A. Lopez, P.E.

 (Printed Name)
 Vice President

 (Title)
 1/27/16

 (Date)



 (Signature)
 James M. Bass

 (Printed Name)
 Executive Director

 (Title)
 2/2/16

 (Date)

**Attachments and Exhibits to Contract for Engineering Services
 Incorporated into the Contract by Reference**

Attachments	Title
A	General Provisions
B	Services to Be Provided by the State
C	Services to Be Provided by the Engineer
D	Work Authorization and Supplemental Work Authorization
E	Fee Schedule
F	Work Schedule
G	Computer Graphics Files for Document and Information Exchange, if applicable
H-FG	Disadvantaged Business Enterprise (DBE) for Federal Funded Professional or Technical Services Contracts – See Attachment H Instructions
H – FN	Disadvantaged Business Enterprise (DBE) for Race-Neutral Professional or Technical Services Contracts – See Attachment H Instructions N/A
H – SG	Historically Underutilized Business (HUB) Requirements for State Funded Professional or Technical Services Contracts – State of Texas HUB. Subcontracting plan required – See Attachment H Instructions N/A
H – SN	Historically Underutilized Business (HUB) Requirements for State Funded Professional or Technical Services Contracts – No State of Texas HUB N/A
Exhibits	Title
H – 1	Subprovider Monitoring System Commitment Worksheet
H – 2	Subprovider Monitoring System Commitment Agreement
H – 3	Monthly Progress Assessment Report
H - 4	Subprovider Monitoring System Final Report
H - 5	Federal Subproviders and Supplier Information
H - 6	HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report N/A

ATTACHMENT A

GENERAL PROVISIONS

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ATTACHMENT A

GENERAL PROVISIONS

ARTICLE 1. WORK AUTHORIZATIONS

A. Use. The Engineer shall not begin any work until the State and the Engineer have signed a work authorization. Costs incurred by the Engineer before a work authorization is fully executed or after the completion date specified in the work authorization are not eligible for reimbursement. All work must be completed on or before the completion date specified in the work authorization, and no work authorization completion date shall extend beyond the contract period set forth in Article 2 of the contract (Contract Period).

B. Contents. Each work authorization will include: (1) types of services to be performed; (2) a period of performance with a beginning and ending date; (3) a full description of the work to be performed; (4) a work schedule with milestones; (5) a cost not to exceed amount, (6) the basis of payment whether cost plus fixed fee, unit cost, lump sum, or specified rate; and (7) a work authorization budget calculated using fees set forth in Attachment E, Fee Schedule. The Engineer is not to include additional contract terms and conditions in the work authorization. In the event of any conflicting terms and conditions between the work authorization and the contract, the terms and conditions of the contract shall prevail and govern the work and costs incurred.

C. Work Authorization Budget. A work authorization budget shall set forth in detail (1) the computation of the estimated cost of the work as described in the work authorization, (2) the estimated time (hours/days) required to complete the work at the hourly rates established in Attachment E, Fee Schedule; (3) a work plan that includes a list of the work to be performed, (4) a stated maximum number of calendar days to complete the work, and (5) a cost-not-to-exceed-amount or unit or lump sum cost and the total cost or price of the work authorization. The State will not pay items of cost that are not included in or rates that exceed those approved in Attachment E.

D. No Guaranteed Work. Work authorizations are issued at the discretion of the State. While it is the State's intent to issue work authorizations hereunder, the Engineer shall have no cause of action conditioned upon the lack or number of work authorizations issued.

E. Incorporation into Contract. Each work authorization shall be signed by both parties and become a part of the contract. No work authorization will waive the State's or the Engineer's responsibilities and obligations established in this contract. The Engineer shall promptly notify the State of any event that will affect completion of the work authorization.

F. Supplemental Work Authorizations. Before additional work may be performed or additional costs incurred, a change in a work authorization shall be enacted by a written supplemental work authorization in the form identified and attached hereto as Attachment D. Both parties must execute a supplemental work authorization within the period of performance specified in the work authorization. The State shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with the performance or prior to the execution of the work authorization. The Engineer shall allow adequate time for review and approval of the supplemental work authorization by the State prior to expiration of the work authorization. Any supplemental work authorization must be executed by both parties within the time period established in Article 2 of the contract, (Contract Period). Under no circumstances will a work authorization be allowed to extend beyond the contract's expiration date or will the total amount of funds exceed the maximum amount payable set forth in Article 3A of the contract (Compensation).

F-1. More Time Needed. If the Engineer determines or reasonably anticipates that the work authorized in a work authorization cannot be completed before the specified completion date, the Engineer shall promptly notify the State. The State may, at its sole discretion, extend the work authorization period by execution of supplemental authorization, using the form attached hereto as Attachment D.

F-2. Changes in Scope. Changes that would modify the scope of the work authorized in a work authorization must be enacted by a written supplemental work authorization. The Engineer must allow adequate time for the State to review and approve any request for a time extension prior to expiration of the work authorization. If the change in scope affects the amount payable under the work authorization, the Engineer shall prepare a revised work authorization budget for the State's approval.

G. New Work Authorization. If the Engineer does not complete the services authorized in a work authorization before the specified completion date and has not requested a supplemental work authorization, the work authorization shall terminate on the completion date. At the sole discretion of the State, it may issue a new work authorization to the Engineer for the incomplete work using the unexpended balance of the preceding work authorization for the project. If approved by the State, the Engineer may calculate any additional cost for the incomplete work using the rates set forth in the preceding work authorization and in accordance with Attachment E, Fee Schedule.

H. Emergency Work Authorizations. The State, at its sole discretion, may accept the Engineer's signature on a faxed copy of the work authorization as satisfying the requirements for executing the work authorization, provided that the signed original is received by the State within five business days from the date on the faxed copy.

I. Deliverables. Upon satisfactory completion of the work authorization, the Engineer shall submit the deliverables as specified in the executed work authorization to the State for review and acceptance.

ARTICLE 2. PROGRESS

A. Progress meetings. The Engineer shall from time to time during the progress of the work confer with the State. The Engineer shall prepare and present such information as may be pertinent and necessary or as may be requested by the State in order to evaluate features of the work.

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

C. Inspections. If federal funds are used to reimburse costs incurred under this contract, the work and all reimbursements will be subject to periodic review by the U. S. Department of Transportation.

D. Reports. The Engineer shall promptly advise the State in writing of events that have a significant impact upon the progress of a work authorization, including:

1. problems, delays, adverse conditions that will materially affect the ability to meet the time schedules and goals, or preclude the attainment of project work units by established time periods; this disclosure will be accompanied by statement of the action taken or contemplated, and any State or federal assistance needed to resolve the situation; and
2. favorable developments or events which enable meeting the work schedule goals sooner than anticipated.

E. Corrective Action. Should the State determine that the progress of work does not satisfy the milestone schedule set forth in a work authorization, the State shall review the work schedule with the Engineer to determine the nature of corrective action needed.

ARTICLE 3. SUSPENSION OF WORK AUTHORIZATION

A. Notice. Should the State desire to suspend a work authorization but not terminate the contract, the State may verbally notify the Engineer followed by written confirmation, giving (30) thirty days notice. Both parties may waive the thirty-day notice in writing.

B. Reinstatement. A work authorization may be reinstated and resumed in full force and effect within sixty (60) business days of receipt of written notice from the State to resume the work. Both parties may waive the sixty-day notice in writing.

C. Contract Period Not Affected. If the State suspends a work authorization, the contract period as determined in Article 2 of the contract (Contract Period) is not affected and the contract and the work authorization will terminate on the date specified unless the contract or work authorization is amended to authorize additional time.

D. Limitation of Liability. The State shall have no liability for work performed or costs incurred prior to the date authorized by the State to begin work, during periods when work is suspended, or after the completion date of the contract or work authorization.

ARTICLE 4. ADDITIONAL WORK

A. Notice. If the Engineer is of the opinion that any assigned work is beyond the scope of this contract and constitutes additional work, it shall promptly notify the State in writing, presenting the facts of the work authorization and showing how the work authorization constitutes additional work.

B. Supplemental Agreement. If the State finds that the work does constitute additional work, the State shall so advise the Engineer and a written supplemental agreement will be executed as provided in General Provisions, Article 6, Supplemental Agreements.

C. Limitation of Liability. The State shall not be responsible for actions by the Engineer or any costs incurred by the Engineer relating to additional work not directly associated with or prior to the execution of a supplemental agreement.

ARTICLE 5. CHANGES IN WORK

A. Work Previously Submitted as Satisfactory. If the Engineer has submitted work in accordance with the terms of this contract but the State requests changes to the completed work or parts thereof which involve changes to the original scope of services or character of work under the contract, the Engineer shall make such revisions as requested and as directed by the State. This will be considered as additional work and paid for as specified under Article 4, Additional Work.

B. Work Does Not Comply with Contract. If the Engineer submits work that does not comply with the terms of this contract, the State shall instruct the Engineer to make such revision as is necessary to bring the work into compliance with the contract. No additional compensation shall be paid for this work.

C. Errors/Omissions. The Engineer shall make revisions to the work authorized in this contract which are necessary to correct errors or omissions appearing therein, when required to do so by the State. No additional compensation shall be paid for this work.

ARTICLE 6. SUPPLEMENTAL AGREEMENTS

A. Need. The terms of this contract may be modified if the State determines that there has been a significant increase or decrease in the duration, scope, cost, complexity or character of the services to be performed. A supplemental agreement will be executed to authorize such significant increases or decreases. Significant is defined to mean a cost increase of any amount and a cost decrease of twenty percent (20%) or more of the original estimated project cost.

B. Compensation. Additional compensation, if appropriate, shall be calculated as set forth in Article 3 of the contract (Compensation). Significant changes affecting the cost or maximum amount payable shall be defined to include but not be limited to new work not previously authorized or previously authorized services that will not be performed. The parties may reevaluate and renegotiate costs at this time.

C. When to Execute. Both parties must execute a supplemental agreement within the contract period specified in Article 2 of the contract (Contract Period).

ARTICLE 7. OWNERSHIP OF DATA

A. Work for Hire. All services provided under this contract are considered work for hire and as such all data, basic sketches, charts, calculations, plans, specifications, and other documents created or collected under the terms of this contract are the property of the State.

B. Disposition of Documents. All documents prepared by the Engineer and all documents furnished to the Engineer by the State shall be delivered to the State upon request by the State. The Engineer, at its own expense, may retain copies of such documents or any other data which it has furnished the State under this contract, but further use of the data is subject to permission by the State.

C. Release of Design Plan. The Engineer (1) will not release any roadway design plan created or collected

under this contract except to its subproviders as necessary to complete the contract; (2) shall include a provision in all subcontracts which acknowledges the State's ownership of the design plan and prohibits its use for any use other than the project identified in this contract; and (3) is responsible for any improper use of the design plan by its employees, officers, or subproviders, including costs, damages, or other liability resulting from improper use. Neither the Engineer nor any subprovider may charge a fee for the portion of the design plan created by the State.

ARTICLE 8. PUBLIC INFORMATION AND CONFIDENTIALITY

A. Public Information. The State will comply with Government Code, Chapter 552, the Public Information Act, and 43 Texas Administrative Code §3.10 et seq. in the release of information produced under this contract.

B. Confidentiality. The Engineer shall not disclose information obtained from the State under this contract without the express written consent of the State.

C. Access to Information. The Engineer is required to make any information created or exchanged with the state pursuant to this contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the state.

ARTICLE 9. PERSONNEL, EQUIPMENT AND MATERIAL

A. Engineer Resources. The Engineer shall furnish and maintain quarters for the performance of all services, in addition to providing adequate and sufficient personnel and equipment to perform the services required under the contract. The Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the services required under this contract, or it will be able to obtain such personnel from sources other than the State.

B. Removal of Contractor Employee. All employees of the Engineer assigned to this contract shall have such knowledge and experience as will enable them to perform the duties assigned to them. The State may instruct the Engineer to remove any employee from association with work authorized in this contract if, in the sole opinion of the State, the work of that employee does not comply with the terms of this contract or if the conduct of that employee becomes detrimental to the work.

C. Replacement of Key Personnel. The Engineer must notify the State in writing as soon as possible, but no later than three business days after a project manager or other key personnel is removed from association with this contract, giving the reason for removal.

D. State Approval of Replacement Personnel. The Engineer may not replace the project manager or key personnel without prior consent of the State. The State must be satisfied that the new project manager or other key personnel is qualified to provide the authorized services. If the State determines that the new project manager or key personnel is not acceptable, the Engineer may not use that person in that capacity and shall replace him or her with one satisfactory to the State within forty-five (45) days.

E. Ownership of Acquired Property. Except to the extent that a specific provision of this contract states to the contrary, the State shall own all intellectual property acquired or developed under this contract and all equipment purchased by the Engineer or its subcontractors under this contract. All intellectual property and equipment owned by the State shall be delivered to the State when the contract terminates, or when it is no longer needed for work performed under this contract, whichever occurs first.

ARTICLE 10. LICENSE FOR TxDOT LOGO USE

A. Grant of License; Limitations. The Engineer is granted a limited revocable non-exclusive license to use the registered TxDOT trademark logo (TxDOT Flying "T") on any deliverables prepared under this contract that are the property of the State. The Engineer may not make any use of the registered TxDOT trademark logo on any other materials or documents unless it first submits that request in writing to the State and receives approval for the proposed use. The Engineer agrees that it shall not alter, modify, dilute, or otherwise misuse the registered TxDOT trademark logo or bring it into disrepute.

B. Notice of Registration Required: The Engineer's use of the Flying 'T' under this article shall be followed by the capital letter R enclosed within a circle (®) that gives notice that the Flying 'T' is registered in the United States Patent and Trademark Office (USPTO).

C. No Assignment or Sublicense. The Engineer may not assign or sublicense the rights granted by this article without the prior written consent of the State.

D. Term of License. The license granted to the Engineer by this article shall terminate at the end of the term specified in Article 2 of this contract.

ARTICLE 11. SUBCONTRACTING

A. Prior Approval. The Engineer shall not assign, subcontract or transfer any portion of professional services related to the work under this contract without prior written approval from the State.

B. DBE/HUB Compliance. The Engineer's subcontracting program shall comply with the requirements of Attachment H of the contract (DBE/HUB Requirements).

C. Required Provisions. All subcontracts for professional services shall include the provisions included in Attachment A, General Provisions, and any provisions required by law. The Engineer is authorized to pay subproviders in accordance with the terms of the subcontract, and the basis of payment may differ from the basis of payment by the State to the Engineer.

D. Prior Review. Subcontracts for professional services in excess of \$25,000 may be reviewed by the State prior to performance of work thereunder.

E. Engineer Responsibilities. No subcontract relieves the Engineer of any responsibilities under this contract.

ARTICLE 12. INSPECTION OF WORK

A. Review Rights. The State and the U. S. Department of Transportation, when federal funds are involved, and any of their authorized representatives shall have the right at all reasonable times to review or otherwise evaluate the work performed hereunder and the premises in which it is being performed.

B. Reasonable Access. If any review or evaluation is made on the premises of the Engineer or a subprovider, the Engineer shall provide and require its subproviders to provide all reasonable facilities and assistance for the safety and convenience of the state or federal representatives in the performance of their duties.

ARTICLE 13. SUBMISSION OF REPORTS

All applicable study reports shall be submitted in preliminary form for approval by the State before a final report is issued. The State's comments on the Engineer's preliminary report must be addressed in the final report.

ARTICLE 14. VIOLATION OF CONTRACT TERMS

A. Increased Costs. Violation of contract terms, breach of contract, or default by the Engineer shall be grounds for termination of the contract, and any increased or additional cost incurred by the State arising from the Engineer's default, breach of contract or violation of contract terms shall be paid by the Engineer.

B. Remedies. This agreement shall not be considered as specifying the exclusive remedy for any default, but all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

ARTICLE 15. TERMINATION

A. Causes. The contract may be terminated before the stated completion date by any of the following conditions.

1. By mutual agreement and consent, in writing from both parties.
2. By the State by notice in writing to the Engineer as a consequence of failure by the Engineer to perform the services set forth herein in a satisfactory manner.
3. By either party, upon the failure of the other party to fulfill its obligations as set forth herein.
4. By the State for reasons of its own, not subject to the mutual consent of the Engineer, by giving thirty

business days notice of termination in writing to the Engineer.

5. By the State, if the Engineer violates the provisions of Attachment A, General Provisions Article 21, Gratuities, or Attachment H, Disadvantaged Business Enterprise/Historically Underutilized Business Requirements.
6. By satisfactory completion of all services and obligations described herein.

B. Measurement. Should the State terminate this contract as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to the Engineer. In determining the value of the work performed by the Engineer prior to termination, the State shall be the sole judge. Compensation for work at termination will be based on a percentage of the work completed at that time. Should the State terminate

this contract under paragraph (4) or (5) above, the Engineer shall not incur costs during the thirty-day notice period in excess of the amount incurred during the preceding thirty days.

C. Value of Completed Work. If the Engineer defaults in the performance of this contract or if the State terminates this contract for fault on the part of the Engineer, the State will give consideration to the following when calculating the value of the completed work: (1) the actual costs incurred (not to exceed the rates set forth in Attachment E, Fee Schedule) by the Engineer in performing the work to the date of default; (2) the amount of work required which was satisfactorily completed to date of default; (3) the value of the work which is usable to the State; (4) the cost to the State of employing another firm to complete the required work; (5) the time required to employ another firm to complete the work; and (6) other factors which affect the value to the State of the work performed.

D. Calculation of Payments. The State shall use the fee schedule set forth in Attachment E to the contract (Fee Schedule) in determining the value of the work performed up to the time of termination. In the case of partially completed engineering services, eligible costs will be calculated as set forth in Attachment E, Fee Schedule. The sum of the provisional overhead percentage rate for payroll additives and for general and administrative overhead costs during the years in which work was performed shall be used to calculate partial payments. Any portion of the fixed fee not previously paid in the partial payments shall not be included in the final payment.

E. Excusable Delays. Except with respect to defaults of subproviders, the Engineer shall not be in default by reason of any failure in performance of this contract in accordance with its terms (including any failure to progress in the performance of the work) if such failure arises out of causes beyond the control and without the default or negligence of the Engineer. Such causes may include, but are not restricted to, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

F. Surviving Requirements. The termination of this contract and payment of an amount in settlement as prescribed above shall extinguish the rights, duties, and obligations of the State and the Engineer under this contract, except for those provisions that establish responsibilities that extend beyond the contract period.

G. Payment of Additional Costs. If termination of this contract is due to the failure of the Engineer to fulfill its contract obligations, the State may take over the project and prosecute the work to completion, and the Engineer shall be liable to the State for any additional cost to the State.

ARTICLE 16. 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 contract, including, without limitation, worker's compensation laws, minimum and maximum salary and wage statutes and regulations, nondiscrimination, and licensing laws and regulations. When required, the Engineer shall furnish the State with satisfactory proof of its compliance therewith.

ARTICLE 17. INDEMNIFICATION

A. Errors, Omissions, Negligent Acts. The Engineer shall save harmless the State and its officers and employees from all claims and liability due to activities of itself, its agents, or employees, performed under this contract and which are caused by or result from error, omission, or negligent act of the Engineer or of any

person employed by the Engineer.

B. Attorney Fees. The Engineer shall also save harmless the State from any and all expense, including, but not limited to, attorney fees which may be incurred by the State in litigation or otherwise resisting said claim or liabilities which may be imposed on the State as a result of such activities by the Engineer, its agents, or employees.

ARTICLE 18. ENGINEER'S RESPONSIBILITY

A. Accuracy. The Engineer shall be responsible for the accuracy of work and shall promptly make necessary revisions or corrections resulting from its errors, omissions, or negligent acts without compensation.

B. Errors and Omissions. The Engineer's Responsibility for all questions arising from design errors or omissions will be determined by the State. All decisions shall be in accordance with the State's "Consultant Errors & Omissions Correction and Collection Procedures" and Texas Government Code §2252.905. 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.

C. Seal. The responsible Engineer shall sign, seal and date all appropriate engineering submissions to the State in accordance with the Texas Engineering Practice Act and the rules of the Texas Board of Professional Engineers.

D. Resealing of Documents. Once the work has been sealed and accepted by the State, the State, as the owner, will notify the party to this contract, in writing, of the possibility that a State engineer, as a second engineer, may find it necessary to alter, complete, correct, revise or add to the work. If necessary, the second engineer will affix his seal to any work altered, completed, corrected, revised or added. The second engineer will then become responsible for any alterations, additions or deletions to the original design including any effect or impacts of those changes on the original engineer's design.

ARTICLE 19. NONCOLLUSION

A. Warranty. The Engineer warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this contract and that it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this contract.

B. Liability. For breach or violation of this warranty, the State shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or compensation, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

ARTICLE 20. INSURANCE

The Engineer certifies that it has insurance on file with Contract Services of the Texas Department of Transportation in the amount specified on Form 1560-CS, Certificate of Insurance, as required by the State. No other proof of insurance is acceptable to the State. The Engineer certifies that it will keep current insurance on file with that office for the duration of the contract period. If insurance lapses during the contract period, the Engineer must stop work until a new certificate of insurance is provided.

ARTICLE 21. GRATUITIES

A. Employees Not to Benefit. Texas Transportation Commission policy mandates that employees of the Texas Department of Transportation shall not accept any benefit, gift or favor from any person doing business with or who reasonably speaking may do business with the State under this contract. The only exceptions allowed are ordinary business lunches and items that have received the advance written approval of the Executive Director of the Texas Department of Transportation.

B. Liability. Any person doing business with or who reasonably speaking may do business with the State under this contract may not make any offer of benefits, gifts or favors to department employees, except as mentioned above. Failure on the part of the Engineer to adhere to this policy may result in the termination of this contract.

ARTICLE 22. DISADVANTAGED BUSINESS ENTERPRISE OR HISTORICALLY UNDERUTILIZED BUSINESS REQUIREMENTS

The Engineer agrees to comply with the requirements set forth in Attachment H, Disadvantaged Business Enterprise or Historically Underutilized Business Subcontracting Plan Requirements with an assigned goal or a zero goal, as determined by the State.

ARTICLE 23. MAINTENANCE, RETENTION AND AUDIT OF RECORDS

A. Retention Period. The Engineer shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and services provided (hereinafter called the Records). The Engineer shall make the records available at its office during the contract period and for seven (7) years from the date of final payment under this contract, until completion of all audits, or until pending litigation has been completely and fully resolved, whichever occurs last.

B. Availability. The State or any of its duly authorized representatives, the Federal Highway Administration, the United States Department of Transportation, Office of Inspector General, and the Comptroller General shall have access to the Engineer's Records which are directly pertinent to this contract for the purpose of making audits, examinations, excerpts and transcriptions.

ARTICLE 24. NEPOTISM DISCLOSURE

A. In this section the term "relative" means:

- (1) a person's great grandparent, grandparent, parent, aunt or uncle, sibling, niece or nephew, spouse, child, grandchild, or great grandchild, or
- (2) the grandparent, parent, sibling, child, or grandchild of the person's spouse.

B. A notification required by this section shall be submitted in writing to the person designated to receive official notices under this contract and by first-class mail addressed to Contract Services Office, Texas Department of Transportation, 125 East 11th Street, Austin Texas 78701. The notice shall specify the Engineer's firm name, the name of the person who submitted the notification, the contract number, the district, division, or office of TxDOT that is principally responsible for the contract, the name of the relevant Engineer employee, the expected role of the Engineer employee on the project, the name of the TxDOT employee who is a relative of the Engineer employee, the title of the TxDOT employee, the work location of the TxDOT employee, and the nature of the relationship.

C. By executing this contract, the Engineer is certifying that the Engineer does not have any knowledge that any of its employees or of any employees of a subcontractor who are expected to work under this contract have a relative that is employed by TxDOT unless the Engineer has notified TxDOT of each instance as required by subsection (b).

D. If the Engineer learns at any time that any of its employees or that any of the employees of a subcontractor who are performing work under this contract have a relative who is employed by TxDOT, the Engineer shall notify TxDOT under subsection (b) of each instance within thirty days of obtaining that knowledge.

E. If the Engineer violates this section, TxDOT may terminate the contract immediately for cause, may impose any sanction permitted by law, and may pursue any other remedy permitted by law.

ARTICLE 25. CIVIL RIGHTS COMPLIANCE

A. Compliance with Regulations: The Engineer will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, the Federal Highway Administration, as they may be amended from time to time.

B. Nondiscrimination: The Engineer, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Engineer will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 45 CFR Part 21.

C. Solicitations for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or

supplier shall be notified by the Engineer of the Engineer's obligations under this contract and the Acts and Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports: The Engineer shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the State or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations or directives. Where any information required of the Engineer is in the exclusive possession of another who fails or refuses to furnish this information, the Engineer will so certify to the State or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance: In the event of the Engineer's noncompliance with the Nondiscrimination provisions of this contract, the State will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- a) withholding of payments to the Engineer under the contract until the Engineer complies and/or
- b) cancellation, termination, or suspension of the contract, in whole or in part.

F. Incorporation of Provisions: The Engineer will include the provisions of paragraphs (A) through (E) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Engineer will take such action with respect to any subcontract or procurement as the State or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance provided, however, that in the event an Engineer becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Engineer may request the Texas Department of Transportation to enter into such litigation to protect the interests of the State; and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE 26. PATENT RIGHTS

The State and the U. S. Department of Transportation shall have the royalty free, nonexclusive and irrevocable right to use and to authorize others to use any patents developed by the Engineer under this contract.

ARTICLE 27. COMPUTER GRAPHICS FILES

The Engineer agrees to comply with Attachment G, Computer Graphics Files for Document and Information Exchange, if determined by the State to be applicable to this contract.

ARTICLE 28. CHILD SUPPORT CERTIFICATION

Under Section 231.006, Texas Family Code, the Engineer certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate. If the above certification is shown to be false, the Engineer is liable to the state for attorney's fees, the cost necessary to complete the contract, including the cost of advertising and awarding a second contract, and any other damages provided by law or the contract. A child support obligor or business entity ineligible to receive payments because of a payment delinquency of more than thirty (30) days remains ineligible until: all arrearages have been paid; the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency; or the court of continuing jurisdiction over the child support order has granted the obligor an exemption from Subsection (a) of Section 231.006, Texas Family Code, as part of a court-supervised effort to improve earnings and child support payments.

ARTICLE 29. DISPUTES

A. Disputes Not Related to Contract Services. 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 authorized herein.

B. Disputes Concerning Work or Cost. Any dispute concerning the work hereunder or additional costs, or any non-procurement issues shall be settled in accordance with 43 Texas Administrative Code §9.2.

ARTICLE 30. SUCCESSORS AND ASSIGNS

The Engineer and the State do each 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. The Engineer shall not assign, subcontract or transfer its interest in this contract without the prior written consent of the State.

ARTICLE 31. SEVERABILITY

In the event any one or more of the provisions contained in this contract 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 contract shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

ARTICLE 32. PRIOR CONTRACTS SUPERSEDED

This contract constitutes the sole agreement of the parties hereto for the services authorized herein and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein.

ARTICLE 33. CONFLICT OF INTEREST

A. Representation by Engineer.

The Engineer represents that its firm has no conflict of interest that would in any way interfere with its or its employees' performance of services for the department or which in any way conflicts with the interests of the department. The Engineer further certifies that this agreement is not barred because of a conflict of interest pursuant to Texas Government Code, Section 2261.252, between it and the State. Specifically, the Engineer certifies that none of the following individuals, nor any or their family members within the second degree of affinity or consanguinity, owns 1% or more interest, or has a financial interest as defined under Texas Government Code, Section 2261.252(b), in the Engineer: any member of the Texas Transportation Commission, TxDOT's Executive Director, General Counsel, Chief of Procurement and Field Support Operations, Director of Procurement, or Director of Contract Services. The firm shall exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict with the department's interests.

B. Certification Status. The Engineer certifies that it is not:

1. a person required to register as a lobbyist under Chapter 305, Government Code;
2. a public relations firm; or
3. a government consultant.

C. Environmental Disclosure. If the Engineer will prepare an environmental impact statement or an environmental assessment under this contract, the Engineer certifies by executing this contract that it has no financial or other interest in the outcome of the project on which the environmental impact statement or environmental assessment is prepared.

D. Commencement of Final Design. This contract does not obligate the State to proceed with final design for any alternative. On completion of environmental documentation, the State will consider all reasonable alternatives in a fair and objective manner. Notwithstanding anything contained elsewhere in the contract or in any work authorization, the Engineer may not proceed with final design until after all relevant environmental decision documents have been issued.

E. Restrictions on Testing. If the Engineer will perform commercial laboratory testing under this contract, on any project the Engineer may not perform more than one of the following types of testing:

1. verification testing;
2. quality control testing; or
3. independent assurance testing.

ARTICLE 34. OFFICE OF MANAGEMENT AND BUDGET (OMB) AUDIT REQUIREMENTS

The parties shall comply with the requirements of the Single Audit Act of 1984, P.L. 98-502, ensuring that the single audit report includes the coverage stipulated in 2 CFR 200.

ARTICLE 35. DEBARMENT CERTIFICATIONS

The parties are prohibited from making any award at any tier to any party that is debarred or suspended or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549, "Debarment and Suspension." By executing this agreement, the Engineer certifies that it is not currently debarred, suspended, or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549. The parties to this contract shall require any party to a subcontract or purchase order awarded under this contract to certify its eligibility to receive Federal funds and, when requested by the State, to furnish a copy of the certification.

ARTICLE 36. E-VERIFY CERTIFICATION

Pursuant to Executive Order RP-80, Engineer certifies and ensures that for all contracts for services, Engineer shall, to the extent permitted by law, utilize the United States Department of Homeland Security's E-Verify system during the term of this agreement to determine the eligibility of:

1. All persons employed by Engineer during the term of this agreement to perform duties within the State of Texas; and
2. All persons, including subcontractors, assigned by Engineer to perform work pursuant to this agreement.

Violation of this provision constitutes a material breach of this agreement.

ARTICLE 37. RESTRICTIONS ON EMPLOYMENT OF FORMER STATE OFFICER OR EMPLOYEE

The Engineer shall not hire a former state officer or employee of a state agency who, during the period of state service or employment, participated on behalf of the state agency in this agreement's procurement or its negotiation until after the second anniversary of the date of the officer's or employee's service or employment with the state agency ceased.

ARTICLE 38. NON-DISCRIMINATION PROVISIONS

A. Relocation Assistance: The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects.

B. Disability:

- a) Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 et. Seq.), as amended, prohibits discrimination on the basis of disability; and 49 CFR Part 27.
- b) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by the Department of Transportation regulations at 49 C.F.R. parts 37 and 38.

C. Age: The Age Discrimination Act of 1974, as amended, (42 U.S.C. § 6101 et. Seq.), prohibits discrimination on the basis of age.

D. Race, Creed, Color, National Origin, or Sex:

- a) The Airport and Airway Improvement Act of 1982 (49 U.S.C. § 4.71, Section 4.7123), as amended, prohibits discrimination based on race, creed, color, national origin, or sex.
- b) The Federal Aviation Administration's Nondiscrimination state (4 U.S.C. § 47123) prohibits discrimination on the basis of race, color, national origin, and sex.
- c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et. seq.), prohibits discrimination on the basis of sex.
- d) Title IX of the Education Amendments of 1972, as amended, prohibits discrimination because of sex in education program or activities (20 U.S.C. 1681 et. seq.).

E. Civil Rights Restoration Act: The Civil Rights Restoration Act of 1987 (PL 100-209), Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975

and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs and activities” to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not.

F. Minority Populations: Executive Order 12808, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which limits discrimination against minority and low-income populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations.

G. Limited English Proficiency: Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, the Engineer must take reasonable steps to ensure that LEP persons have meaningful access to its programs (70 Fed. Reg. at 74087 to 74100).

ATTACHMENT B**SERVICES TO BE PROVIDED BY THE STATE**

For each negotiated Work Authorization the State will designate a Project Manager to represent the State and will provide the following information or services as listed below by Function Code.

FUNCTION CODE 102(110) – ROUTE AND DESIGN STUDIES

The State will:

- A. Provide As-built Plans.
- B. Provide Preliminary Cost Estimate, Project Information and other Documentation.
- C. Provide soil boring logs for inclusion in the final plans, if applicable.
- D. Conduct all services related to development of final schematic documents, processes, and acceptance.
- E. Conduct all traffic operational analysis for the ultimate schematic design including mainlanes, ramps, frontage roads, intersections, and side streets.
- F. Provide final approved schematic plan.
- G. Provide Environmental Impact Statement and Re-Evaluation information and final approved documents.
- H. Provide Map File, Topographic (Planimetric) Base File and Aerial Photography.
- I. Provide approved traffic data.
- J. Provide DCIS project information.
- K. Provide Design Summary Report.
- L. Provide Value Engineering Report, if available and applicable.
- M. Provide current average bid prices for construction, maintenance, and operation costs.

FUNCTION CODE 120(120) – SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

The State will:

- A. Provide available project development documents, environmental assessments or impacts, schematics, typical sections, public involvement records, etc.
- B. Conduct and/or lead Environmental Re-Evaluation efforts including public involvement
- C. Provide and manage web site
- D. Lead all Public Involvement and stakeholder coordination
- E. Review and process each necessary environmental and public involvement document prior to letting of the construction contract.
- F. Locate suitable facilities, advertise, and conduct each required public meeting.
- G. Provide designated State representatives for each public meeting.
- H. Provide a court reporter if necessary for public meetings.
- I. Review the information and material developed by the Engineer to be presented at each public meeting or public hearing three weeks before any such event. The State will return review comments to the Engineer two weeks before each such

- meetings or hearings, if applicable.
- J. Provide current version of all State's Guidelines for preparation of environmental documents, air quality analysis, and noise analysis. Make available versions of "recommended text" for air, noise, or other studies that the State desires standard wording to be used.
 - K. Provide the Potential Archeological Liability Map (PALM) of the project area.

FUNCTION CODE 130(130) – RIGHT-OF-WAY DATA

The State will:

- A. Provide available existing right of way plans for the proposed project location.
- B. Provide parcel survey and plats for construction easements and ROW shown on schematic.
- C. Conduct all right-of-way appraisals and acquisitions, if applicable.

FUNCTION CODE 160(150) – FIELD SURVEYING AND PHOTOGRAMMETRY

The State will:

- A. Provide survey control points such as horizontal control points, benchmark elevations and descriptions for vertical control, and listing of horizontal alignment coordinates for baseline control only, if available.
- B. Provide aerial photographs (contact prints) of the proposed project area, if available.
- C. Furnish a Digital Terrain Model (DTM) file to generate Cross Sections and contours, if available.

FUNCTION CODE 160(160) – ROADWAY DESIGN CONTROLS

The State will:

- A. Provide applicable Preliminary Design Concept Conference, schematic layout and Plans, Specifications and Estimate (PS&E) package checklists for use by the Engineer.
- B. Provide As-built plans of the existing project facilities, if available.
- C. Provide standard GEOPAK design cross section criteria files developed by the State.

FUNCTION CODE 160(161) – DRAINAGE

The State will:

- A. Provide existing hydraulic and hydrologic studies associated with the project and project area.
- B. Provide areas of wetlands delineation to be surveyed by the Engineer.
- C. Submit the WPAP to EPA for review, provide coordination with EPA, and obtain EPA approval of the WPAP.

FUNCTION CODE 160(162) – SIGNING, PAVEMENT MARKINGS AND SIGNALIZATION (PERMANENT)

The State will:

- A. Furnish traffic signal justification warrants, if applicable.
- B. Available traffic counts, traffic projects and accident data, if available.

FUNCTION CODE 160(163) – MISCELLANEOUS (ROADWAY)

The State will:

- A. Provide example estimates, district general notes and standards, sample specification lists and related hard copy documentation for the Engineer's use in preparing the preliminary estimate, general notes and specifications.
- B. Provide a maximum project cost to be used in the preparation of the preliminary design.
- C. Furnish tabulation of current applicable bid process, if applicable.
- D. Negotiate with each project utility company for relocation agreements or required relocation as applicable.
- E. Right of entry from public or private land owners to allow environmental services to be performed. Right of entry permission shall be written and signed by the land owner. Letters or other materials seeking right of entry shall contain explicit reference to the kinds of activities for which right of entry is requested and an indication of the impacts (if any) that will result from performance of environmental services.

FUNCTION CODE 145(145/164) – PROJECT MANAGEMENT AND ADMINISTRATION

The State will:

- A. Review, approve and update Project Design Criteria.
- B. Prompt Review of Deliverables.
- C. Provide copies of preferred District Details to be used.
- D. Provide copies of preferred District Standards to be used.
- E. Prepare final General Notes and final Specification Data Sheets.

FUNCTION CODE 160(170) – BRIDGE DESIGN

The State will:

- A. Furnish as-built plans of existing structures, National Bridge Inventory (NBI), and applicable Brinsap report.
- B. Review and provide written approval of each preliminary bridge layout before bridge design work begins.

FUNCTION CODE 390(300) – CONSTRUCTION PHASE SERVICES

The State will:

- A. Supply shop drawings and related submittals received from the contractor or fabricators to the Engineer.
- B. Request for applicable change order plan modifications that are based on changed conditions or a request by the State to modify the design based on field conditions or applicable updates to the State's standards and criteria.

Additional Responsibilities

- Provide design criteria for roadway, structures, drainage, and hydraulics.
- Interface with local, regional, State and Federal agencies or other entities on behalf of Engineer.
- Coordinate and notify in writing with Emergency Medical Services (EMS), school system, United State (U.S.) Mail, etc. for any detour routes and roadway closures. Upon request by the State, the Engineer shall prepare the necessary exhibits.
- Provide the Engineer with timely reviews in accordance with Exhibit C, "Work Schedule" of the Work Authorization and decisions to enable the Engineer to maintain the project schedule as approved by the State.
- Provide paper prints or electronic copies of design files containing, for example, a sample title sheet, plan profile sheet, plan sheet, sheet quantities and storm water pollution prevention plan (SW3P) sheet, if available and applicable.
- Provide milestone guidelines as applicable to the district the work is being performed.
- Secure all required permits and agreements.
- Provide the "Guide for Determining Time Requirements for Traffic Signal Preemptions at Highway-rail Crossings.

Resource Information**A. Agencies.**

1. AASHTO – American Association of State Highway and Transportation Officials
2. BEG – Bureau of Economic Geology, University of Texas at Austin
3. CEQ – Council on Environmental Quality
4. ENV – Environmental Affairs Division of the Texas Department of Transportation
5. District – One (1) of the twenty-five (25) geographical districts into which the Texas Department of Transportation is divided.
6. FEMA – Federal Emergency Management Agency
7. FHWA – Federal Highway Administration
8. IBWC – International Boundary and Water Commission
9. MPO – Metropolitan Planning Organization
10. NRCS – Natural Resource Conservation Service (formerly Soil Conservation Service)
11. SHPO - State Historic Preservation Office

12. State – Texas Department of Transportation acting on behalf of the State of Texas
13. TARL – Texas Archeological Research Laboratory
14. THC – Texas Historical Commission
15. TCEQ – Texas Commission on Environmental Quality (formerly TNRCC)
16. TPWD – Texas Parks and Wildlife Department
17. TxDOT – Texas Department of Transportation
18. USACE – United States Army Corps of Engineers
19. USCG – United States Coast Guard
20. USEPA – United States Environmental Protection Agency
21. USFWS – United States Fish and Wildlife Service
22. USGS – United States Geological Survey
23. UTM – Universal Transverse Mercator

B. Environmental Terms.

1. APE – Area of Potential Effects
2. Archeological Historic Property – an archeological site eligible for inclusion in the National Register of Historic Places (36 CFR 60) or for designation as a State Archeological Landmark (SAL) (TAC, Title 13, Part 2, Chapter 26).
3. CE – Categorical Exclusion
4. CFR – Code of Federal Regulations
5. CSJ – Control Section Job
6. Deliverables – Reports for environmental services
7. EA – Environmental Assessment
8. Environmental Services – environmental documents, studies, research, permit applications, public involvement, training and other activities for completion of an environmental document.
9. EPIC – Environmental Permits Issues and Commitments
10. FHWA Technical Advisory T 6640.8A (1987) – FHWA Format Guidance
11. FONSI – Finding of No Significant Impact (23 CFR 771 and TAC, Title 43)
12. HABS – Historic American Buildings Survey

ATTACHMENT C
SERVICES TO BE PROVIDED BY ENGINEER

CSJ: 0253-04-146

Highway: US 281

County: Bexar

Limits: LP 1604 to Stone Oak Parkway

Project Description: Expand to a six (6) Lane Controlled Access Highway with High Occupancy Vehicle (HOV) Lanes and Frontage Roads

The work to be performed by the Engineer consists of providing engineering services to include plans, specifications, and estimates for US 281 in north Bexar County. The proposed project is to expand this portion of the roadway to a six (6) lane expressway. (Consisting of 2 General Purpose Lanes and 1 HOV lane in each direction) and completion of the SL 1604/US 281 Interchange (consisting of the 4 northern direct connectors). Some additional right of way (ROW) will be required as shown on the geometric schematic for the project.

This contract will provide the following services for US 281 for the appropriate assigned tasks under work authorizations:

- Environmental document review
- Review of schematics and traffic modeling
- Supplemental Public Involvement and public relations services
- Field Surveying
- Right-of-way (ROW) Surveying and Mapping
- Roadway Design
- Design of Miscellaneous Items
- Hydraulic and Drainage studies
- Geotechnical services
- Utility management and coordination
- Subsurface Utility Engineering (SUE)
- Plans Specification & Estimates (PS&E) preparation
- Bridge design
- Cost Estimating services for total project costs

GENERAL REQUIREMENTS

A. Coordination. Coordinate issues and communications with State's internal resource areas through the State's Project Manager. The State will communicate the resolution of issues and provide the Engineer direction through the State's Project Manager.

- B. Level of Effort.** For each work authorization, base the level of effort at each phase on the prior work developed in earlier phases without unnecessary repetition or re-study. As directed by the State, provide written justification regarding whether or not additional or repeated level of effort of earlier completed work is warranted, or if additional detail will be better addressed at a later stage in the project development.
- C. Use of the State’s Standards.** Identify and insert the applicable, current State’s Standard Details, District Standard Details, or miscellaneous details that have been approved for use as frequently as is feasible. Sign, seal, and date each District Standard and miscellaneous detail selected for use that is dependent upon the project’s location, if the District Standard selected has not been adopted for use in a District. Obtain approval for use of these details during the early stages of design from the State Project Manager or designated State Area Engineer. In addition, these details shall be accompanied by the appropriate general notes, special specifications, special provisions, and method of payment. Retain the responsibility for the appropriate selection of each Standard identified for use within their design.
- D. Limited Access to State’s DCIS.** Limited access to the State’s DCIS to update responsible engineer information, sign, seal and date, build specification list and develop Project estimate will be provided to the Engineer. As shown on the table below, access and update DCIS with the following function codes.

DCIS Update Screens	Required Criteria for Access	DCIS Function Code
S01-Responsible Engineer Update S03-Sealing, Signing & Dating P04-Project Estimate C03-Build Specifications	Consultant Registered Professional Engineer (PE)	CONENG
P04-Project Estimate C03-Build Specifications	Consultant does not have to be a PE	CONEST

The State will require the Engineer to sign forms 1828, Information Security Compliance Agreement; 1980, Request for External Access to the State’s Information Systems, 2110; Information Resources Confidentiality Agreement, and DR-IRI Information Access Request Form. These access rights will be revoked after the project is let.

TASK DESCRIPTIONS AND FUNCTION CODES

The Engineer shall categorize each task performed to correspond with the Function Codes (FC) and Task Descriptions.

FUNCTION CODE 102 – FEASIBILITY STUDIES**A. Route and Design Studies****1. Data Collection and Field Reconnaissance.** Collect, review and evaluate data described below.

- a. Notify the State in writing whenever the Engineer finds disagreement with the information or documents:
 - i. Data, if available, from the State, including “as-built plans”, existing schematics, right-of-way maps, Subsurface Utility Engineering (SUE) mapping, existing cross sections, existing planimetric mapping, environmental documents, existing channel and drainage easement data, existing traffic counts, accident data, Bridge Inspection records, Project Management Information system (PMIS) data, identified endangered species, identified hazardous material sites, current unit bid price information, current special provisions, special specifications, and standard drawings.
 - ii. Documents for existing and proposed development along proposed route from local municipalities and local ordinances related to project development.
 - iii. Utility plans and documents from appropriate municipalities and agencies.
 - iv. Readily available flood plain information and studies from the Federal Emergency Management Agency (FEMA), the U. S. Army Corps of Engineers (USACE), local municipalities and other governmental agencies in addition to that provided by the State.
- b. Conduct field reconnaissance and collect data including a photographic record (to be maintained in Engineer’s office) of notable existing features.
- c. Collect and maintain an up-to-date Photo and Video Log of the project limits. The photo and video log shall be provided to the State upon request. The photo and video log shall include, but not be limited to the following existing elements: pavement, culverts, inlets, bridges, traffic rail, concrete barrier, driveways, ramp gores, illumination poles, small signs, large signs, and traffic management system hardware. Photo and video logs shall be date stamped with Geographic Information System (GIS) locations.

2. Design Criteria.

- a. Review and modify the roadway design criteria established for the approved schematic based on the controlling factors specified by the State

(i.e. 4R, 3R, 2R, or special facilities), by use of the funding categories, design speed, functional classification, roadway class and any other set criteria as set forth in PS&E Preparation Manual, Roadway Design Manual, Bridge Design Manual, Hydraulic Design Manual, and other deemed necessary State approved manuals.

- b. Review and modify the Design Summary Report (DSR) for the project, submit to the State for approval, and obtain written concurrence from the State prior to proceeding with a design.
- c. Plan, attend and document a Design Concept Conference (DCC) to be held prior to commencement of design to finalize the DSR and obtain consensus for the direction of the project. The conference will provide for a brainstorming session in which decision makers, stakeholders and technical personnel may discuss and agree on roadway and drainage design parameters and engineering and environmental constraints.
- d. Identify the maximum and minimum values for all design elements and will identify the project preferred values.
- e. Identify all design exceptions necessary and prepare Requests for Design Exception for submittal to the State. Assume preparation of a maximum of 2 design exception requests.

3. Preliminary Typical Sections.

- a. Review and modify preliminary typical sections, which represent both the existing and proposed conditions. Typical Sections shall include representations of the various conditions proposed, such as slopes, number of lanes, shoulder widths, clear zones, border width and right-of-way width. Typical sections shall be prepared to provide accurate representation of the project.

4. Traffic Data Review and Update.

- a. Review existing traffic data and collect additional needed traffic volumes to be used in evaluating operations during construction traffic control sequencing. Count locations along US 281 include:
 - i. 1604 (4 locations)
 - ii. Sonterra (4 locations)
 - iii. Redland (2 locations)
 - iv. Encino Rio (2 locations)
 - v. Evans (2 locations)
 - vi. Stone Oak (2 locations)
 - vii. Marshall (2 locations)

5. Northern Terminus Option Analysis.

- a. Conduct feasibility study of an option to provide an overpass at Marshall Road to include;
 - i. Traffic operations analysis
 - ii. Design feasibility
 - iii. Estimate of probable construction cost

6. Preliminary Cost Estimate.

- a. Review and modify the estimate of probable construction cost for this project based on a quantity take-off of the approved design schematic using current average unit bid prices of TxDOT bid items.

7. Develop Preliminary Construction Sequence

- a. A conceptual construction sequence complete with typical sections and general plan view depiction of the traffic control plan shall be developed and discussed with the State to confirm approach prior to developing a Traffic Control Plan (TCP) and scheduling the District Safety Review Team (DSRT) meeting (FC 160). This shall include traffic handling, roadway phasing and pedestrian routing during construction.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Logs of all data collected in electronic .pdf format
- Copies of electronic data in native format and electronic .pdf format
- Photos and video in electronic native format on Compact Disc (CD) or Digital Video Disc (DVD)
- Meeting minutes for the DCC in electronic .pdf format.
- Preliminary DSR in electronic Word® and .pdf format
- Final DSR in electronic Word® and .pdf format
- List of required design exceptions, variances and waivers for the project in electronic Word® and .pdf format.
- Requests for design exception in electronic Word® and .pdf format.
- Preliminary estimate of probable construction cost in electronic Excel®, DCIS compatible and .pdf format
- Preliminary typical sections in Microstation® and electronic .pdf format.
- Technical memorandum on the northern terminus option analysis
- Additional traffic data collection for design support

Assumptions:

- The Engineer may reasonably rely on any documents, information and materials provided by the State for all Tasks Engineer performs under this scope of services and the Agreement. The State represents that Engineer's use of such documents, information or materials will not infringe upon any third party's rights. Because Engineer has no control over the cost of labor, materials, or equipment furnished by others, or over the resources provided by others to meet Project schedules, Engineer's opinion of probable costs and of Project schedules under this Agreement shall be made on the basis of experience and qualifications as a practitioner of its profession. The Engineer does not guarantee that proposals, bids, or actual Project costs will not vary from the Engineer's cost estimates or that actual schedules will not vary from the Engineer's projected schedules

B. Geotechnical Borings and Investigations

1. **Geotechnical Services.** Includes Bridges, Overhead Sign Structures, Pavement, Subgrade, Retaining Walls and Noise Walls, Embankment And Slope Stability for Cut Slopes Greater Than 10 Feet Vertical.
 - a. Follow the procedures and design guidelines stated in the TxDOT *Geotechnical Manual*.
 - b. Provide a letter to the State Area Office showing the proposed dates and traffic control standards to be used for the core sample collection.
 - c. Provide traffic control as per Texas Manual on Uniform Traffic Control Devices (TMUTCD) and clear all utilities. If lane closures are needed, submit lane closure request letter to State Area Office providing the location, times and dates of proposed closures at least ten (10) days in advance of the lane closure.
 - d. Develop the subsurface investigation program including numbers of borings, estimated boring depths, boring locations, required sampling, and laboratory testing program and coordinate boring procedures with the State.
 - e. Contact the appropriate utility company for location services to have underground utilities located prior to drilling in an area.
 - f. Assess existing geotechnical data provided by the State and utilize as appropriate.
 - g. Follow Karst Area Drilling Protocols for boring operations within the project limits. All areas of the project fall within karst zones 1, 2 or 3. While conducting boring operations in karst zones 1-3, the following procedures shall be used.
 - i. Minimize the number of boreholes.

- ii. To the maximum extent possible, avoid placing boreholes adjacent to previously identified potential karst invertebrate habitat.
- iii. Avoid placing boreholes within the boundary of Critical Habitat Unit 12.
- iv. During borehole activities voids in bedrock are usually indicated by a bit drop or loss of drilling pressure. If a bit drop of more than approximately 3 ft or a loss of drilling pressure that would indicate the potential presence of a substantial void is detected while advancing a borehole, the geotechnical operator will cease operation.
- v. It is the responsibility of the Engineer supervising the drilling crew to confirm that if a void is encountered, that work stops immediately and that the drilling rig is moved to another location. This supervising engineer shall notify the State, who in turn will contact ENV.
- vi. ENV will send a qualified scientist to assess the potential feature and make a determination as to if the bore may continue to be advanced or needs to be closed. In the event that this process becomes burdensome given a high level of void detection, then ENV will supply a full-time monitor for the duration of the boring in karst zones 1-3.

2. Determine the location of proposed soil borings.

- a. Prepare a layout showing proposed boring locations and approximate depths for bridge design, embankment settlement analysis, retaining walls, slope stability in accordance with the latest edition of the State's Geotechnical Manual. The State will review and provide comments for the boring layout. Once the Engineer receives the State's review comments they shall perform soil borings (field work), soil testing and prepare the boring logs in accordance with the latest edition of the State's Geotechnical Manual and District's procedures and design guidelines. Perform coring of existing pavement for removal items only. Based on preliminary assessments the following number of soil borings is proposed:
 - i. **Bridge borings – approx. 36**, Estimate a minimum of two borings per bridge, depth range from 60 to 80 feet.
 - ii. **Retaining wall borings – approx. 82**, 1 every 200 feet, 35 foot depth or 10 feet into rock whichever occurs first (cut wall boring depths should extend a minimum depth below the cut line equal to the wall height) (noise walls are included in the wall boring requirements),

- iii. **Pavement borings – 41**, Estimate average depth of 10 feet. These will also serve as general roadway borings. In addition to the pavement borings, the FWD investigation needs to be performed as per the scope.
- iv. **Noise wall borings – 6**, Estimate depth of 30 feet, estimate 5 feet of soil drilling and 25 feet of rock coring each.
- v. **Large and Overhead sign structure borings – 20**, estimated depth of 40 feet, estimate 5 feet of soil drilling and 35 feet of rock coring each.
- vi. **Culverts and boxes** – included in numbers above.

3. Soil Core Hole Drilling.

- a. Conduct Soil Core Hole Drilling for pavement, bridges, overhead sign structures, retaining walls and noise walls in accordance with the procedures in the TxDOT *Geotechnical Manual*
- b. Contact the appropriate utility location services to have underground utilities located prior to drilling in an area.
- c. Provide a soil survey for pavement design.
- d. Perform soil borings, coring for pavement, piezometric readings, testing and analysis to include slope stability analysis, settlement analysis, and foundation design recommendations along retaining walls, overhead sign structures, bridges, embankments and any temporary soil retaining systems. Continuous sampling is required.
- e. Secure soil samples by Shelby Tube or Continuous Sampler methods only.
- f. Questions on borehole spacing should be directed to the State's Project Manager for coordination with the District Pavement or Materials Engineer or as required. Provide for traffic control and utility clearance. Provide a letter to the State's Area Office showing the proposed dates and traffic control standards to be used for the core sample collection.

4. Pavement Core Holes

- a. Perform all geotechnical investigation and testing according to the State Geotechnical Manual and American Society for Testing Materials (ASTM) standards.
- b. Drilling and Sampling and Logging and Coordination
 - i. Locate cores in the field utilizing Global Positioning System (GPS) equipment providing the X, Y, Z coordinates tied into the field survey.
 - ii. Obtain approximately 41 pavement core holes.

- iii. Subgrade samples shall be taken at the bottom of the pavement coring.
- c. Laboratory
 - i. Sample the subgrade soils for classification testing purposes, including two (2) Atterberg Limits, two (2) moisture content, two percent (2%) passing the number 200 sieve, and one (1) sulfate content tests per boring. Additionally, three (3) lime series curves shall be performed on subgrade samples along the alignment as well as two (2) State Triaxial Tests. In addition, organic content, lime subgrade strength, and sulfate testing will be performed on each core from the roadway.
 - ii. Perform all geotechnical investigation and testing according to the State Geotechnical Manual and ASTM standards.
- d. Engineering Reporting
 - i. Provide a signed and sealed written Engineering report which will include the results of the field and laboratory testing, as well as evaluation of subgrade pavement section design and construction recommendations based on the results of the testing and Falling Weight Data (FWD) information provided by the Engineer.
- e. Attend the Pavement Design Concept Conference as required by the State's San Antonio District Pavement Approval Delegation Memorandum dated December 1, 2009.
- f. Provide Falling Weight Deflectometer (FWD) data to determine the variations in subgrade support for the project limits. The non-destructive testing (NDT) data will be used to estimate the in situ subgrade and existing pavement strengths using the software program, Modulus back-calculation program. Existing pavement thickness for the FWD tested section must also be provided for the back-calculation analysis.
- g. Use the State FPS21 software and follow recommendations in the 2011 State Pavement Design Manual to develop the pavement designs for all project roadway types, including but not limited to main lanes, ramps, frontage roads, cross streets, direct connectors and high occupancy vehicle lanes. As per the State's San Antonio District Pavement Design Guide, exclude the use of the potential vertical rise (PVR) model using FPS21 and will run the Modified Triaxial Design Check.
- h. The pavement designs shall consider traffic loads, which will be provided by the State. The State will provide the Transportation Planning and Programming (TP&P) traffic output for pavement design as prepared by the State. Backfill the open boreholes with soil cuttings. The holes

through the existing pavement section shall be patched using flexible base material and "cold patch" asphaltic concrete.

5. Bridges and Overhead Sign Bridges

- a. Perform all geotechnical investigation and testing according to the State Geotechnical Manual and ASTM standards.
- b. Review all existing data before determining new data requirements. Old borings which contain strength data are usually adequate for new construction. If old borings are used for design, show the old boring data on the plans, and note the date of the boring.
- c. Drill at a minimum two (2) boring at each proposed location of new bridges to a maximum depth of 80 feet below existing natural ground.
- d. Drill one (1) boring for each Overhead Sign Bridge foundation / support (OSB) in accordance with the guidelines in the TxDOT Bridge Division Manual.
- e. Perform scour analysis to include Grain Size distribution curves with D50 value.
- f. Conduct Texas Cone Penetrometer tests at five (5) foot intervals beginning at a five (5) foot depth.
- g. Test soft upper soil layers
- h. Classify soil and bedrock
- i. Fill out a complete soil and bedrock classification and log record for each test hole on the standard log, including all information to complete the form.
- j. Ground water:
 - i. Include ground water elevation measurements as part of the data acquisition and method of monitoring water surface fluctuations.
 - ii. Backfill the open boreholes with soil cuttings. The holes through the existing pavement section shall be patched using flexible base material and "cold patch" asphaltic concrete.
- k. Assume that all coring activities can occur in the shoulders and that main lane closures are not required.
- l. Drilling logs:
 - i. Use TxDOT's WINCORE computer program to provide a log per borehole at a 20' per page spacing.
 - ii. Completely fill in header and footer information.
 - iii. Indicate existing pavement thickness and layer types when applicable.
 - iv. Classify soil and rock according to the Unified Soil Classification System (USCS) per TxDOT Test Method TEX-142-E.

- v. Report MC, LL, and PI in the appropriate columns plus -40/-200 gradation values in the "Remarks" section of the logs.
 - vi. Report any other values from tests run such as Direct Shear, Consolidation, RQD for rock, etc. that shall assist in the understanding and evaluation of the material.
 - vii. Indicate groundwater levels or seepage upon completion of drilling for each borehole in the Remarks section at the bottom of the page. If hole is dry, indicate such in the Remarks section.
- m. Provide a signed and sealed Engineering report to include a map showing the location of the borings, subsurface exploration logs using the engineering software program, WinCore format, all laboratory testing results, generalized soil stratigraphy, interrupted groundwater levels, piezometer data, analyses and recommendations for settlement and slope stability of the earthen embankments, and design capacity curves utilizing point bearing as well as lateral values.

6. Retaining Walls and Noise Walls

- a. Perform all geotechnical investigation and testing according to the State Geotechnical Manual and ASTM standards.
- b. Obtain soil borings for retaining walls as specified in the TxDOT Bridge Division manual.
- c. Conduct Texas Cone Penetrometer tests at 5 feet intervals beginning at a 5 feet depth. Standard penetration test data is not acceptable for foundation design.
- d. Site conditions may require the installation of piezometers to establish a true ground water surface elevation and method of monitoring water surface fluctuations.
- e. Backfill the open boreholes with soil cuttings. The holes through the existing pavement section shall be patched using flexible base material and "cold patch" asphaltic concrete.
- f. Perform any retaining wall analyses to include the settlement analysis. This analysis should include the computation of the factor of safety for bearing capacity, global stability, overturning and sliding. Analyses shall include allowable bearing pressure, passive earth pressure, friction factor, settlement analysis (consolidation report) and lateral earth pressure for the retaining walls.
- g. Incorporate retaining wall and noise wall analyses into the signed and sealed written Engineering Report.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Records of all correspondence with utility companies, TxDOT and Environmental division (ENV) in electronic .pdf format.
- Traffic control plan for geotechnical operations in electronic Microstation® and .pdf format.
- One (1) printed copy of the proposed boring layout and electronic Microstation® and .pdf format.
- Signed and sealed Engineering report for pavement design in electronic Word® and .pdf format.
- Drilling Logs with all required information.
- Signed and sealed Engineering report for bridges, retaining walls, sound walls and overhead sign bridges in electronic Word® and .pdf format.

FUNCTION CODE 120 – SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES

Social, Economic and Environmental Studies and Public Involvement

- A. Informal Meetings.** Provide technical assistance, preparation of exhibits for, and minutes of up to twenty (20) informal meetings requested by the State to discuss with the public the pending impacts to neighborhoods and businesses due to roadway shutdowns, detours and access restrictions or as deemed necessary by the State. These include meetings with elected officials, individual stakeholders, staff of local municipalities and other governmental entities, business groups, Home Owner Associations, and other civic groups.
- B. Environmental Permits Issues and Commitments (EPIC) Sheets.** Complete the latest version of the EPIC sheets. These sheets shall be signed, sealed and dated by the Engineer as indicated in signature block.
- C. Environmental Study Review.** The State shall provide the environmental study to the Engineer for review and implementation into the PS&E package. Summarize constructability issues considered in mitigating environmental impacts.
- D. Environmental Exhibits.** Prepare up to (2) two exhibits for environmental study for any areas outside the original limits of the environmental document. Coordinate with the State's Project Manager for the preparation of these exhibits.
- E. Cut and Fill Exhibits.** If the information is available, prepare cut and fill exhibits for delineated wetlands.

F. Noise Workshop. Conduct one noise workshop with affected property owners utilizing noise analysis prepared during schematic update and environmental re-evaluation.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- EPIC sheets for inclusion in the plans in electronic Microstation® and .pdf format.
- Cut and fill exhibits in electronic Microstation® and .pdf format.
- Constructability report as it relates to any environmental issues in electronic Word® and .pdf format.
- Exhibits and handouts for use at informal meetings in hard copy and in electronic .pdf format.
- Meeting minutes of all informal meetings in electronic .pdf format.
- Agendas, sign in sheets, handouts, exhibits and meeting minutes of noise workshop in electronic .pdf format.

FUNCTION CODE 130 – RIGHT-OF-WAY (ROW) DATA

A. ROW : Assume support efforts for a maximum of two parcels

1. ROW Acquisition.

- a. Provide fact witness testimony in up to two hearings, condemnation proceedings or other litigation with respect to acquisition of right of way, easements, and other forms of property interests required for this project.
- b. Develop and maintain a right-of-way and utility tracking application to assist the project team with managing property and acquisition related transactions, right-of-way data, and utility information. The system shall provide real time data to accomplish the following:
 - i. Assist with maintaining project schedules.
 - ii. Provide the ability to track the status of individual parcels and utility conflicts.
 - iii. Provide mandatory project controls that impose State procedures and policies concerning land acquisition and utility coordination.
 - iv. Provide the ability for the State to manage user access to critical information and to easily obtain necessary data for input into the State's in-house Right of Way Information System (ROWIS).

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Weekly and monthly status reports of acquisition and utility relocation status.
- Graphic exhibits updated periodically (up to once a month) depicting status of ROW acquisition and utility relocation status with highlighted priorities.

B. Utility Coordination, Investigation, and Engineering Services

1. Utility Engineering Investigation (Subsurface Utility Engineering) for utilities not included under existing SUE investigations or needing additional information: including utility investigations subsurface and above ground prepared in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards and Utility Quality Levels as follows:

- a. Quality Level D (assume up to 10,000 lf) – Existing Records: Utilities are plotted from review of available existing records.
- b. Quality Level C (assume up to 10,000 lf) – Surface Visible Feature Survey: Quality Level “D” information from existing records is correlated with surveyed surface-visible features. Includes Quality Level D information. If there are variances in the designated work area of Level D then a new schematic or plan layout, if needed, is required showing the limits of the proposed project and limits of the work area required; including highway stations, limits within existing or proposed right of way, additional areas outside the proposed right of way, and distances or areas to be included down existing intersecting roadways.
- c. Quality Level B (assume up to 10,000 lf) – Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive surface geophysical methods. Utility indications are referenced to established survey control. Incorporates quality levels C and D information to produce Quality Level B. If there are variances in the designated work area of Level D then a new schematic or plan layout, if needed, is required showing the limits of the proposed project and limits of the work area required; including highway stations, limits within existing or proposed right of way, additional areas outside the proposed right of way, and distances or areas to be included down existing intersecting roadways.
 - i. As requested by the State compile "As Built" information from plans, plats and other location data as provided by the utility owners.
 - ii. Coordinate with utility owner when utility owner's policy is to designate their own facilities at no cost for preliminary survey

- purposes. Examine utility owner's work to for accuracy and completeness.
- iii. Designate, record and mark the horizontal location of the existing utility facilities and their service laterals to existing buildings using non-destructive surface geophysical techniques. No storm sewer facilities are to be designated unless authorized by the State. A non-water base paint, utilizing the American Public Works Association (APWA) color code scheme, must be used on all surface markings of underground utilities.
 - iv. 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, if applicable shall be prepared and delivered to the State. It is understood by both the Engineer and the State that the line sizes of designated utility facilities detailed on the deliverable are from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. 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 State. This information shall be provided in the latest version of Microstation® or Geopak® used by the State. The electronic file shall be delivered on CD. A hard copy is required and must be signed, sealed, and dated by the Engineer. When requested by the State, the designated utility information must be over laid on the State's design plans.
 - v. Determine and inform the State of the approximate utility depths at critical locations as determined by the State. This depth indication is understood by both the Engineer and the State to be approximate only and is not intended to be used preparing the right of way and construction plans.
 - vi. When requested, provide a monthly summary of work completed and in process with adequate detail to verify compliance with agreed work schedule.
 - vii. Close-out permits as required.
 - viii. Clearly identify all utilities that were discovered from quality levels C and D investigation, but cannot be depicted in quality level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.

- ix. Comply with all applicable State policy and procedural manuals.
- d. Quality Level A – Locate (Test Hole): (assume up to 60 holes) Three-dimensional mapping and other characterization data. This information is obtained through exposing utility facilities through test holes and measuring and recording (to appropriate survey control) utility/environment data. Incorporates quality levels B, C and D information to produce Quality Level A.
 - i. Review requested test hole locations and advise the State in the development of an appropriate locate (test hole) work plan relative to the existing utility infrastructure and proposed highway design elements.
 - ii. Coordinate with utility owner inspectors as may be required by law or utility owner policy.
 - iii. Neatly cut and remove existing pavement material, such that the cut not to exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist.
 - iv. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
 - a. Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
 - b. Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
 - c. Elevation of existing grade over utility at test hole location.
 - d. Horizontal location referenced to project coordinate datum.
 - e. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
 - f. Utility facility material(s).
 - g. Utility facility condition.
 - h. Pavement thickness and type.
 - i. Coating/Wrapping information and condition.
 - j. Unusual circumstances or field conditions.
 - v. Excavate test holes in such a manner as to prevent 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 Office.
 - vi. Be responsible for damage caused to the utility during the locating process. In the event of damage, stop work, notify the appropriate utility facility owner, the State and appropriate regulatory agencies.

The regulatory agencies include, but are not limited to the Railroad Commission of Texas and the Texas Commission on Environmental Quality. Work may not resume until the utility facility owner has determined the corrective action to be taken. Be liable for all costs involved in the repair or replacement of the utility facility.

- vii. Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. Be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.
 - viii. Furnish and install a permanent above ground marker, directly above center line of the utility facility.
 - ix. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, then return to correct the condition at no extra charge to the State.
 - x. Plot utility location position information to scale and provide a comprehensive utility plan sign and sealed by the responsible Engineer. This information shall be provided in the latest version of Microstation® or Geopak® format used by the State. The electronic file shall be delivered CD. When requested by the State, the Locate information must be over laid on the State's design plans.
 - xi. Return plans, profiles, and test hole data sheets to the State. If requested, conduct a review of the findings with the State.
 - xii. Close-out permits as required.
- 2. Utility Adjustment Coordination** including utility coordination meetings with individual utility companies, communication and coordination with utilities, and preparation of utility agreement assemblies including utility agreements, joint use agreements, and advanced funding agreements.
- a. Perform utility coordination and liaison activities with involved utility owners, their consultants, and the State to achieve timely project notifications, formal coordination meetings, conflict analysis and resolution. Act as the "Responsible Party" as indicated in the State's—Utility Cooperative Management Process (See the State's ROW Utility Manual, chapter 2).
 - b. Coordinate all activities with the State, or their designee, to facilitate the orderly progress and timely completion of the State design phase. Provide the following Work:

- i. **Work Plan.** Coordinate a work plan including a list of the proposed meetings and coordination activities, and related tasks to be performed, a schedule and an estimate. The work plan must satisfy the requirements of the project and must be approved by the State prior to commencing work.
 - ii. **Orientation.** Prepare and present, in collaboration with State staff, instruction and orientation sessions as required by the State's Project Manager. The instruction shall introduce the subsurface utility engineering process, demonstrate the technology and facilitate the preparation of work orders, billings, and contract related documentation.
 - iii. **Initial Project Meeting.** Attend an initial meeting and an on-site inspection (when appropriate) to verify familiarity with existing conditions, project requirements and prepare a written report of the meeting.
 - iv. **External Communications:** Coordinate all activities with the State and its consultants or other contractors or representatives, as authorized by the State. Provide the State copies of diaries, correspondence and other documentation of work-related communications between the Engineer, utility owners and other outside entities when requested by the State.
 - v. **Permits and rights of entry.** Obtain all necessary permits from city, county, municipality, railroad or other jurisdiction to allow the Engineer to work within existing streets, roads or private property for additional designating and/or subsurface utility locating.
 - c. **Determine which utilities shall conflict with highway construction or the "Utility Accommodation Rules" (UAR), and make the utility company aware of these conflicts. Assist the utility companies in the preparation of required agreements associated with the funding of adjustments and the occupation of State right of way;**
 - i. **Utility Agreement Assemblies:** A packaged agreement consisting of a Utility Joint Use Acknowledgement, Standard Utility Agreements, Plans on 11x17 sheets, Statement of contract work form, Affidavit form and copy of recorded easement, schedule of work and various attachments as detailed in the UAR and the State's Utility Manual.
 - ii. **Utility Agreements:** If a utility is located within an easement, the utility company may have a compensable interest. The utility company must furnish a copy of their easement to the Engineer. Determine whether or not a compensable interest exists and the owner's degree of eligibility. Assist the utility company with

- adjustment plans and cost estimate for these adjustments. Review plans for compliance with UAR and to verify that the proposal shall not conflict with highway construction. Submit a copy of the easement, plans, and estimate to the State by letter recommending approval (6 copies of each). The utility should be reimbursed all cost incurred within their easement limits for replacement in kind.
- iii. **Utility Acknowledgement:** For this project, all Non-Reimbursable Utility Adjustments shall be submitted with the form ROW-U-JUAB Utility Joint Use Acknowledgement, Non-Reimbursable Utility Adjustment. This form replaces the Notice of Proposed Installation” (Form 1082). The term permit refers to form 1082 or form ROW-U-JUAB. Furnish the appropriate form to the utility company and assist them with adjustment plan preparation. The utility company should submit the Utility Joint Use Acknowledgement and adjustment plans to the Engineer for review. Review plans for compliance with UAR and to verify that the proposal shall not conflict with highway construction. Submit the Utility Joint Use Acknowledgement to the State by letter recommending approval (6 copies).
 - iv. **Escrow Agreements:** If it is determined that the utility shall be adjusted as part of the highway contract; the State’s Project Manager (PM) shall be notified immediately. Determine what funding amount is required based upon the applicable betterment or eligibility ratio. The State shall be notified immediately of the need for an Advanced Funding Agreement (AFA) by the Engineer. Coordinate the development of the required AFA with the utility owner and the State in accordance with established procedures of the State’s SPO Contracts section. Procure or verify all Advanced Funding Agreement payments have been submitted to the State.
 - v. Submit the required number of executed copies of the Utility Agreement assemblies, which include the appropriate Forms as detailed in the UAR and provided by the State, a copy of the recorded easement Deed, plans, and estimate to the State by letter recommending approval (6 copies of each). The utility should be reimbursed eligible costs incurred within their easement limits for replacement in kind. The transmittal should also provide a description of the work being done as well as the estimated cost and schedule of work. The Engineer shall not perform engineering of relocation plans relative to a particular Utility Agreement under this supplemental as this is a cost of Right of Way that is subsidiary

to the specific Utility Agreement.

- vi. Recommend which utilities shall be installed by "ROW-U-JUAB", or by "Agreement". Process all ROW-U-JUAB requests, Utility Agreements and recommend necessity of any Escrow Agreements and forward to the State for final approval;

3. Utility Engineering including the identification of utility conflicts, coordination, compliance with the UAR, and resolution of utility conflicts. Coordinate all activities with the State, or their designee, to facilitate the orderly progress and timely completion of the State's design phase.

a. Coordination of engineering activities include:

- i. Utility Layout: Maintain a utility layout in the latest version of Microstation used by the State. This layout shall include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout shall be utilized to monitor the necessity and evaluate alternatives. The Engineer's licensed Professional Engineer (P.E.) shall utilize the layout of existing utilities as prepared, if available, and make a determination of the following;

- a. Facilities in conflict with the proposed project that are to be relocated.

- b. Facilities to be abandoned in place.

- c. Facilities to remain in service and in place as a result roadway design adjustments and meeting the current UAR.

- d. The Engineer shall be responsible for determining if there are additional facilities, not shown in the Subsurface Utility Engineering (SUE) documents, which require relocation. Coordinate this information with the State immediately upon discovery.

b. Public & Individual Meetings with Utility Companies, as required, to facilitate utility conflict identification and resolution.

- i. Establish contact with all existing utilities within and adjacent to the project limits and set up utility coordination meetings to discuss concepts and options for construction.

- ii. Schedule all utility coordination meetings and assess compatibility with the schedule of the State.

- iii. Set agenda for all coordination meetings as directed by the State.

- iv. Establish and promote the desired agenda and methodologies for utility construction within the project limits. This shall consist primarily of promoting the construction of utilities as a part of the

Highway Contract.

- v. **Orientation:** Prepare and present, in collaboration with the State, instruction and orientation sessions as required. The instruction shall introduce the SUE Plans, the proposed utility layout, processes, demonstrate the technology and facilitate the preparation of work orders, billings, and contract related documentation as it pertains to utility adjustment work.
 - vi. **Initial Project Meeting:** Attend an initial meeting and an on-site inspection (when appropriate) to provide familiarity with existing conditions, project requirements and prepare a written report of the meeting.
 - vii. **Work Plan:** Develop a work plan including a list of the tasks to be performed, a schedule and an estimate. The work plan must satisfy the requirements of the project and must be approved by the State prior to commencing work.
 - viii. **Progress Meetings:** Meet with the State periodically to coordinate the work effort and resolve problems and prepare a written report of such meetings. The meetings shall review:
 - a. Activities completed since the last meeting
 - b. Problems encountered.
 - c. Late activities.
 - d. Activities required by the next progress meeting.
 - e. Solutions for unresolved and/or anticipated problems.
 - f. Information or items required from other agencies/consultants.
- c. **Review of Utility's Proposed Adjustments**
- i. **Evaluate Alternatives:** Evaluate alternatives in the adjustment of utilities balancing the needs of both the State and the Utility.
 - ii. **Review Estimates and Schedules:** Review the utility adjustment estimates for reasonableness of cost and the timely scheduling of the adjustment.
 - iii. **Review Plans for compliance with Utility Accommodation Rules and proposed location data.** The responsibility for quality and accuracy of Utility adjustment plans shall remain with the Utility Company.
 - iv. **Inspect Traffic control setup.** Review for compliance with the regulations of the most recent edition of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD). Obtain approval from the State concerning the proposed method of handling traffic prior to allowing commencement of work.
- d. **The Engineer shall not provide services for the sole benefit of third parties.**

- e. Prepare a Signed and Sealed Proposed Utility Layout in the latest version of MicroStation used by the State that can be overlaid on the base file with drainage and determine the following;
 - i. Known facilities conflicts have been resolved.
 - ii. All stakeholders have concurred with the various alignments.
 - iii. Establish the sequence of construction for all utility relocation work whether it is included as a part of the highway construction or not
 - iv. Determine which utilities shall be built as part of the contract.
 - v. Determine which facilities shall be relocated prior to construction.
 - f. Utility Certification and Special Provisions: The Engineer's P.E. shall submit upon request from the State, a Utility Certification or a Special Provisions report. Utility Certification shall certify that all utilities are clear for highway construction. However, if the utility adjustments are not complete prior to highway project letting, a Special Provision shall be required outlining all outstanding utility conflicts and their effects on highway construction. Furthermore, A Utility Clearance schedule, signed by the utility owner shall be provided with the certification as noted above. The formats for the Certification and the Clearance schedule shall be provided by the State.
 - g. Submit the required number of executed copies of the Utility Agreement assemblies, which include the appropriate Forms as detailed in the UAR and provided by the State, a copy of the recorded easement Deed, plans, and estimate to the State by letter recommending approval (6 copies of each). The Transmittal letter should include the following statement "The proposed utility adjustment shall not conflict with proposed highway construction and shall comply with UAR. The utility should be reimbursed eligible costs incurred within their easement limits for replacement in kind." The transmittal should also provide a description of the work being done as well as the estimated cost and schedule of work. The Engineer shall not perform engineering of relocation plans relative to a particular Utility Agreement under this contract as this is a cost of Right of Way that is subsidiary to the specific Utility Agreement.
- 4. Utility Construction Management and Verification**, including the coordination of utility construction activities, utility location installation verification, compliance with Utility Accommodation Rules, monitoring, reporting, and as-built surveying as required for the State.
- a. Schedule a Pre-Construction meeting for each utility adjustment for which they are required to perform field verification and inspection duties. See

that the necessary State representatives are present.

- b. Verification:
 - i. Field verify all utility adjustments to verify that the new facilities are located according to plans, specifications, and the Proposed Utility Layout. Review third party utility adjustments for compliance.
 - ii. Verify that the utility is in compliance with the TMUTCD, "Storm Water Pollution Prevention Plan" (SW3P), backfill specifications, and restoration of right of way upon completion of work.
- c. Status Reports: This contract will provide the State with a status report for all utility adjustments on a monthly basis. The State shall provide the status report format to the Engineer.
- d. Review Payment Request: Review all payment requests for conformance with the utility estimate and verify the work has been performed.
- e. Not Used.
- f. Not Used.
- g. Not Used.
- h. The Engineer shall not provide services for the sole benefit of third parties.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Field and CADD base mapping for all SUE level investigations with facilities noted including applicable level of SUE performed, date services performed, type and size of facility, and ownership data of the facility.
- Utility agreement assemblies received from utility owner with supporting documentation and records, and recommendations concerning compliance with regulations and applicable agreements, and for further processing by the State.
- Field diaries documenting results of visual field inspections and discussions.
- Written recommendations concerning payment requests and recommendations on completed work compliance with applicable utility agreements and State requirements for adjustments in State ROW.
- Record of correspondence with utility companies and their representatives.

C. ROW Surveying for a maximum of two parcels

1. **Additional ROW.** The following is an outline of the work to be performed and the products to be provided by the Engineers surveyor for each ROW CSJ in

pursuance of this Contract. Note that ROW CSJ(s) shall be established to match Construction CSJ(s).

- a. Review and evaluate the existing right-of-way map to verify that all construction staging and alignment considerations have been taken into account. Notify the State in writing if it is necessary to obtain additional construction easements or rights-of-entry and shall provide justification for such action. Be responsible for identifying and delineating any temporary construction easements in areas outside the State's Right of Way. The State shall secure the necessary legal instruments.
- b. Coordinate and evaluate access management within the project limits in accordance with the latest State Access Management Manual or as directed by the State.
- c. Prepare an abstract map of the current record title holders covering any easements or ROW needs not previously identified in the schematic or ROW mapping.
- d. Prepare a preliminary right-of-way layout covering any easements or ROW needs not previously identified in the schematic or ROW mapping.
- e. Prepare a completed right-of-way map, including a control data sheet and utility table covering any easements or ROW needs not previously identified in the schematic or ROW mapping.
- f. Prepare property descriptions, parcel plots and area calculation sheets describing parcels of land to be acquired. These documents may be packaged in subcategories of the ROW CSJ as approved by the State.
 - i. Monument the proposed right-of-way lines at intersecting property lines with appropriate Monuments, and at all PCs, PTs, angle points, intersecting right-of-way lines of side streets, and 1,500 foot stations.
 - ii. Monument the existing right-of-way lines in areas of no proposed acquisition at all PCs, PTs, angle points, and 1,500 foot stations.
- g. Provide to the State a copy of all instruments of record acquired pursuant to this Contract.
- h. Provide the computer graphics files of the right-of-way map and field note descriptions on a medium and in a format acceptable to the State.
- i. Provide computer disks of scanned instruments of record (deeds).

2. Definitions

For purposes of this Contract, the following definitions shall apply:

- a. Abstract Map - a drawing to scale depicting proposed right-of-way lines, existing right-of-way lines, easement lines, and private property lines with relevant grantee names, recording data, and recording dates.

- b. Area Calculation Sheet - A computer generated print-out of the area and the perimeter bearings, distances, curve data, and coordinates of an individual parcel of land to be acquired.
- c. Access Denial Line - A line which indicates specific locations where access to the roadway is denied.
- d. Property Description - A written metes and bounds description delineating the area and boundary and describing the location of an individual parcel of land unique to all other parcels of land.
- e. Owner - The most current title holder of record as determined by a study of the Real Property Records.
- f. Parcel Plat - an 8 ½ inch by 11 inch drawing to scale depicting all the information shown on the right-of-way map regarding an individual parcel of land to be acquired.
- g. Parent Tract – A unit or contiguous units of land under one ownership, comprising a single marketable tract of land consistent with the principle of highest and best use. A parent tract may be described by a single instrument or several instruments. A single parent tract cannot be severed by a public right-of-way, easement, or separate ownership which destroys unit of use.
- h. Parent Tract Inset – A small line drawing, to an appropriate scale, of the parent tract perimeter placed upon the right of way map in the proximity of the respective parcel. Parent tract insets are used in cases where the parent tract cannot be shown to the same scale as the right-of-way map. Since parent tract insets are used to identify the limits and location of parent tracts, they should include public right-of-ways, utility easements and fee strips, and identifiable water courses which bound the parent tract.
- i. Point of Beginning (P.O.B.) - A corner of the parcel of land to be acquired, located on the proposed right-of-way line and being the beginning terminus of the first course of the property description.
- j. Point of Commencing (P.O.C.) - A monumented property corner which can be identified in the Real Property Records and is located outside the proposed right of-way corridor. For title purposes the point of commencing should be a monumented back corner of the parent tract. In the event a monumented back corner of the parent tract cannot be recovered, the nearest identifiable, monumented property corner located outside the proposed right-of-way corridor may be used.
- k. Preliminary Right-of-Way Layout - A drawing to scale depicting proposed right of-way lines, existing right-of-way lines, proposed pavement, control of access lines, the proposed centerline alignment, private property lines, easement lines, visible improvements, visible utilities, the station and

offset from the centerline alignment to each PC, PT, and angle point in the proposed right-of-way lines and to each PC, PT, and angle point in the existing right-of-way lines in areas of no proposed acquisition.

- i. **Right-of-Way Map** - A series of 22 inch by 34 inch drawings to scale depicting the results of relevant elements of records research, field work, analyzation, computation, and map making required to determine title, delineate areas and boundaries, locate and describe utilities and improvements to the extent necessary to appraise the value and negotiate the acquisition of individual parcels of private land for a proposed right-of-way project.

3. **Abstracting** for additional parcels outside those identified in the approved schematic and ROW mapping; verify completeness using State's standard checklist.

Abstracting shall be sufficient to determine and depict the following:

- a. Any and all interests of public record held in land to be acquired
- b. The total record holdings of an owner contiguous to land to be acquired from that owner
- c. Any and all interests in land to be acquired held in common (shopping mall parking lots, subdivision reserves, etc.)
- d. Any and all improvements proposed by other agencies which may have a bearing on project development
- e. All called monuments, bearings, and distances per recorded information.

4. **Right-Of-Way Map** for additional parcels outside those identified in the approved schematic and ROW mapping; verify completeness using State's standard checklist.

- a. Proposed right-of-way lines shall be delineated with appropriate bearings, distances and curve data. Curve data shall include the radius, delta angle, arc length and long chord bearing and distance.
- b. Existing right-of-way lines shall be delineated with appropriate bearings, distances and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data shall include the radius, delta angle, arc length and long chord bearing and distance.
- c. The proposed centerline alignment shall be delineated with appropriate bearings, distances and curve data. Curve data shall include the station of the curve PI, radius, delta angle, arc length, tangent length, long chord bearing and distance, and the X and Y coordinates of the curve PI. All centerline alignment PCs, PTs and even 500 foot stations shall be labeled as to station.

- d. Proposed paving lines combined with relevant existing paving lines shall be shown to the extent necessary to compile a complete picture of proposed traffic movements. Proposed paving on the final mylars submitted to the State shall be shaded with colored pencil or highlighted by some other means acceptable to the State.
- e. Control of access lines shall be shown sufficiently to indicate areas where access is to be denied and where access is to be permitted.
- f. Private property lines shall be delineated with appropriate bearings, distances and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data shall include the radius, delta angle, arc length and long chord bearing and distance.
- g. League lines and survey lines shall be shown and identified by name and abstract number.
- h. County lines and city limit lines shall be located and identified by name.
- i. A north arrow shall be shown on each sheet and, if possible, in the upper right hand corner.
- j. Monumentation set or found shall be shown and described as to material and size.
- k. A station and offset shall be shown for each PC, PT and angle point in the proposed right-of-way lines. Stations and offsets shall be with respect to the proposed centerline alignment.
- l. Adjoining public right-of-ways shall be shown and identified by name, right-of-way width, and recording data.
- m. Railroads shall be shown and identified by name, right-of-way width, and recording data.
- n. Utility corridors shall be identified as to easement or fee.
- o. Easements and fee strips shall be shown and identified by width, owner and recording data.
- p. Building lines or set-back lines shall be shown and identified.
- q. Visible improvements located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be shown and completely identified.
- r. Structures shall be identified as commercial or residential, by number of stories, and as to type (brick, wood frame, etc.).
- s. Structures which are severed by a proposed right-of-way line shall be dimensioned to the extent necessary to completely delineate the severed parts.
- t. Parking areas, billboards and other on-premise signs which are severed by a proposed right-of-way line shall be dimensioned to the extent

necessary to delineate that portion of the parking area, billboard or sign which is located within the proposed right-of-way corridor.

- u. In cases where structures are located outside the proposed right-of-way corridor and within 10 feet of a proposed right-of-way line, the shortest distance between the structure and the proposed right-of-way line shall be shown.
- v. If the structure is an element of the planimetric furnished to the Engineer's Surveyor by the State, the Engineer's Surveyor may snap to the structure to determine this shortest distance. However, if this distance is less than 3 feet, it shall be field verified.
- w. Visible utilities located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be shown and completely identified.
- x. The location of underground fuel storage tanks situated within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be determined and shown. The visible location of vent and filler caps in conjunction with available design and as-built drawings may be used to determine a most probable location in the event an actual location is indeterminable.
- y. Points of commencing and points of beginning shall be shown and labeled. Points of beginning shall be shown with their respective X and Y surface coordinates. As an exception, a point of commencing shall not be required in the case of a total taking without remainder.
- z. Each parcel of land to be acquired shall be identified by a parcel number which shall appear in the ownership tabulation and on the right-of-way map in the proximity of the respective parcel. If the Engineer's Surveyor is unfamiliar with the criteria used by the State to assign parcel numbers, he shall seek the assistance of the State at the time the abstract map is complete.
- aa. An ownership tabulation shall be shown which shall include the parcel number, existing area of the parent tract, lot(s) and block(s) constituting the parent tract when applicable, owner's name, type of conveyance, film code, county clerks file number, taking area, and remaining area of the parent tract located left and/or right of the centerline alignment. Types of conveyance, film codes and file numbers refer to conveyances into the State and shall be added to the right-of-way map by the State at a later date. Several blank lines shall be provided for in the tabulation block to facilitate future map additions.
- bb. A parent tract inset shall be shown for each parent tract which cannot be shown to scale on the right-of-way map. The use of broken scale lines

should be avoided. When parent tract insets are used, the point of commencing with the appropriate bearing and distance to the point of beginning may be shown on the parent tract inset.

- cc. A note shall be included on the title sheet, and each map sheet stating the source of bearings, coordinates and datum used.
- dd. Appropriate notes shall be included on the title sheet and each map sheet stating the following.
 - i. Month(s) and year abstracting was performed upon which the map is based
 - ii. Month(s) and year field surveys were conducted upon which the map is based
 - iii. Month and year map was completed by the Engineer's Surveyor
 - iv. The right-of-way account number, if available
 - v. The right-of-way account number, if available, shall be shown on each right-of way map sheet.

5. Property Description for additional parcels outside those identified in the approved schematic and ROW mapping.

- a. The property description shall begin with a general description which shall include as a minimum:
 - i. State, County, and Survey within which the proposed parcel of land to be acquired is located
 - ii. A reference to unrecorded and recorded subdivisions by name, lot, block, and recording data to the extent applicable
 - iii. A reference by name to the grantor and grantee, date and recording data of the most current instrument(s) of conveyance describing the parent tract. It is the preference of the State to use execution dates in deed references as opposed to recording or filing dates. In any case, the property description shall make clear which date is being used.
- b. The property description shall continue with a metes and bounds description which shall include as a minimum:
 - i. A point of commencing
 - ii. A point of beginning with the appropriate X and Y surface coordinates
 - iii. A series of courses, identified by number and proceeding in a clockwise direction, describing the perimeter of the parcel of land to be acquired, and delineated with appropriate bearings, distances and curve data
 - iv. Curve data shall include the radius, delta angle, arc length, and

long chord bearing and distance.

- v. Each course shall be identified either as a proposed right-of-way line, an existing right-of-way line, or a property line of the parent tract. Each property line of the parent tract shall be described with an appropriate adjoiner call.
- vi. A description of all monumentation set or found to include, as a minimum, size and material.
- vii. A reference to the source of bearings, coordinates, and datum used.

6. Mapping and Parcel Plat General Specifications for additional parcels outside those identified in the approved schematic and ROW mapping. For purposes of this Contract the following general specifications for right-of-way mapping and parcel plats shall apply.

- a. Completed right-of-way maps shall be submitted to the State.
- b. Parcel plats shall be submitted to the State.
- c. Right-of-way maps shall be drawn to a scale of 1 inch = 50 feet. An appropriate scale other than 1 inch = 50 feet may be used on some proposed right-of-way projects upon prior approval by the State.
- d. Parcel plats shall be drawn to a scale of 1 inch = 50 feet. An appropriate scale may be used on some proposed right-of-way projects upon prior approval by the State. In the case of a very large parcel which would be difficult to show with clarity on a single 8 1/2 inch by 11 inch sheet, the Engineer's Surveyor shall use multiple 8 1/2 inch by 11 inch sheets with matching lines.
- e. The smallest size lettering acceptable on a parcel sketch shall be 1/10 of one inch (Leroy #100).
- f. Property descriptions shall be submitted on an 8½ inch by 11 inch bond paper.
- g. The State has encountered a number of mylar products which are considered unacceptable. The Engineer's Surveyor shall confer with the State regarding mylar products he intends to use which he has not previously used on State projects.
- h. Zip-a-Tone or other similar stick-on products shall not be used on right-of-way maps or parcel plats.

7. Mapping General Requirements for additional parcels outside those identified in the approved schematic and ROW mapping.

For purposes of this Contract the following general requirements shall apply.

- a. Copies of instruments of record submitted to the State shall be indexed by parcel number.
- b. Coordinates appearing on right-of-way maps and in property descriptions shall be surface coordinates based on the Texas State Plane Coordinate System. The combined adjustment factors (sea level factor x scale factor) which have been developed by the State for its use.
- c. Line and curve tables may be used when necessary.
- d. The number of centerline alignment stations to be shown on a single plan sheet shall be restricted to the extent necessary to allow approximately 4 inches between match lines and sheet borders for future details and notes.
- e. A minimum 4 inch by 4 inch space shall be reserved at the bottom right hand corner of each map sheet for future revision notes.

8. Horizontal Ground Control

- a. Recover existing control points set during schematic development and as provided by the State.
- b. Set additional control as needed.
- c. Azimuth closure shall not exceed 4.5 seconds times the square root of the number of traverse segments.
- d. Position closure after azimuth adjustment shall not exceed 1 in 20,000 or 0.2 meters times the square root of the distance in kilometers (1 foot times the square root of the distance in miles). The expression containing the square root is designed for longer lines where higher proportional accuracy is required. The formula that gives the smallest permissible closure should be used.
- e. Twenty courses between azimuth checks shall be considered the maximum number acceptable.
- f. In cases where a traverse approaches but does not entirely meet these standards of accuracy and the Engineer's Surveyor has assured himself that systematic errors and mistakes have been eliminated; the Engineer's Surveyor shall submit the traverse data to the State for further study. The State shall make a determination as to the acceptability of the traverse as an exception to the standard and notify the Engineer's Surveyor accordingly.

9. Safety

- a. 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*.
- b. 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* shall be prepared by the Engineer's Surveyor and approved by the 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 State personnel for inspection upon request.

10. Automation Requirements

Recognizing the fact that the State has made a significant investment in equipment and training to develop an automated plan preparation system, the following requirement shall apply.

- a. Right-of-way maps and parcel plats shall be prepared using Microstation® version V8 or a more current version.
- b. It is the intent of the State to secure graphics files which have elements of equal integrity, singularity, and attribute as elements prepared using Microstation® version V8 or a more current version.
- c. As a minimum requirement, graphics files shall be comprised of elements defined with the following graphic entities.
 - i. Line - two connected points that form a single entity
 - ii. Line string - a series of connected points that form a single entity
 - iii. Polygon - a series of connected points that form a closed entity
 - iv. Circle - The geometric definition of a circle (not a line string)
 - v. Arc - a segment of a circle (not a line string)
 - vi. Symbol - a group of graphic entities that form a single entity
- d. As a minimum requirement, graphic elements shall be comprised of entities which possess the following attributes.
 - i. Overlay - a drawing layer that can be selectively turned on or off
 - ii. Line weight - a line width
 - iii. Line style - a line symbology
 - iv. Color - a color code
- e. For purposes of clarity, consistency, and ease of utilization, the State has developed standard level menus, font tables, pen tables, color tables, and legends which are available in hard copy and/or graphic file form. Request and secure standards relevant to right-of-way mapping to the extent necessary to confirm compliance with State requirements.

- f. Graphics files furnished to the State by the Engineer's Surveyor shall be submitted on a medium and in a format acceptable to the State. Confer with the State regarding acceptable media and formats before making submissions. Request and secure a Consultant File Index form provided by the State, to be completed by the Engineer's Surveyor, and to be submitted to the State along with the graphics files.
- g. Property descriptions shall be prepared using the latest version of Microsoft Word®, word processing software used by the State or a computer word processing system capable of producing files importable into said software.

Deliverables:

The Engineer shall provide to the State the following deliverables for a maximum of two parcels:

- Master Program Schedule in electronic Primavera® P6 and .pdf format including a detailed schedule break-out for the ROW Mapping and Surveying with individual tasks and milestone deliverables noted by ROW CSJ. Collaborate with the State on the detailed schedule for final reviews and processing of each deliverable.
- Abstract maps in electronic Word® and .pdf format.
- Right-of-way maps in Microstation, .pdf and hardcopy format.
- Draft submittal package of the completed right-of-way maps, property descriptions, parcel and area calculation sheets and instruments of record, shall be assembled for each ROW CSJ after appropriate approvals of the completed right-of-way map in electronic Microstation® and .pdf format.
- Final submittal package of any completed right-of-way map, property descriptions, parcel plats, area calculation sheets, in electronic Microstation® and .pdf format, CD and mark-ups of the draft submittal shall be assembled, verified using the State's checklist, and then forwarded for acceptance by the State and further processing in accordance with the established schedule.
- Monumentation of the proposed right-of-way lines shall be completed in accordance with the established schedule and after receipt by the Engineer's Surveyor of written authorization to proceed with said monumentation. The Engineer's Surveyor shall notify the State in writing when all monumentation for any ROW CSJ has been completed.
- A schedule to accommodate revisions to ROW Maps and associated documents when advised of any change that requires such revisions including changes in ownership, design changes warranting ROW adjustments, or adjustments in State standards for these documents.

FUNCTION CODE 145 – MANAGING CONTRACT**A. Program Management and Administration****1. Leadership and Management Team:**

- a. The Project Manager and Major Work Category Task Leaders are considered key personnel for this project. Submit to the State for review and approval a list of proposed personnel for each assignment. Key personnel may not be changed without written authorization from the State.
- b. As a management team, the Project Manger shall meet not less than once monthly with the State's Project Manager (PM) to discuss the contracts progress and applicable work authorizations assigned, to identify areas of potential risk or opportunity and recommend strategies to minimize losses, optimize efficiencies, and maximize opportunities.
- c. Conduct weekly internal discipline meetings.
- d. Provide monthly progress reports and invoicing to the State.
- e. Provide overall project management of the project, management of subconsultants, internal administration of contracts, internal quality processes and internal communications and correspondence.

2. Electronic Network: Establish, and maintain an electronic web-based electronic document control network for communications among the Team, the State, the Federal Highway Administration (FHWA), and other identified third parties as approved by the State.

The Engineer shall provide:

- a. Project Controls tools: Establish and configure various tools which support project communications, processes and document management.
 - i. ProjectWise System will provide links to project controls, documents, and related reference materials
 - ii. Bluebeam System will support submittal reviews, track comments and provide summary PDF's to authorized users. SQL Server Reporting Services reporting may provide additional managerial reports to communicate process status and review comment details.
- b. System Support: Provide general system maintenance and support.
 - i. Perform periodic system backup and document archival
 - ii. Provide general system maintenance and support
 - iii. Export and deliver project documents at project's end
- c. User Support: Provide general user support which may include:
 - i. Help Desk – help users resolve system problems and questions
 - ii. Provide user training

- iii. Set up users and related permissions according to guidance provided by the State.
 - d. Documents Control Support: Provide general document control support which may include:
 - i. Documentation and document control upload to the ProjectWise and BlueBeam.
 - ii. Document scanning, file organization and transfer of close files to the State
- 3. Communication:** The Engineer shall support communication to strengthen relationships and overall project delivery with Stakeholders which may include the following:
- a. FHWA or other federal agency representatives
 - b. State's personnel and senior management
 - c. State Division personnel and staff
 - d. ROW Acquisition Provider (ROWAP) teams
 - e. Utility Companies
 - f. Third Party Agencies such as counties, local toll road agencies or authorities, local flood control administrators or jurisdictional agencies. State flood control administrators or jurisdictional authorities, local cities, local and State public agencies and other third parties as identified by the State.
- 4. Meeting Records:** Document all meetings held, both internally and externally, as related to the work authorization assignments for this contract, including a record of attendees, agendas, and summary of discussions, action items, and decisions as applicable. Maintain these records electronically in the document management system. A summary of meetings, attendees, and topics shall also be included in a Monthly Progress Report submitted to the State.
- 5. Contract Management:** Prepare and fully execute contracts with their sub-consultants once the prime contract has been fully executed. Partial execution shall be performed in advance in order to expedite the start of WA activities.
- 6. Schedule:** Develop and maintain a detailed project schedule to track project conformance to Exhibit C, Work Schedule, for each work authorization.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Leadership and Management Team organizational chart with responsibilities identified by work authorization in electronic .pdf format.
- Written confirmation of electronic document control network system in electronic .pdf format.
- Meeting agendas, sign-in sheets, and record of meeting notes. Meeting notes shall be provided within five (5) working days following the subject meeting in electronic Word® and .pdf format.
- Record of all contracts, personnel assignments, and work authorizations including all sub-consultant agreements.
- Invoices and monthly written progress reports for each project.
- Project schedule for each work authorization in printed copy and electronic Primavera® P6 and .pdf format.
- Documentation of phone calls and conference calls as required during the project to coordinate the work for various team members in electronic .pdf format.

FUNCTION CODE 160 - ROADWAY DESIGN

A. Field Surveying assuming Light Detection and Ranging (LiDAR) collection for entire ROW from Loop 1604 to north of Marshall, to supplement data provided by the State. No survey outside of ROW is anticipated.

1. Design Survey

- a. Supplement design surveys provided by the State for US 281 from LP 1604 to north of Marshall Rd.
- b. Design survey – 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, horizontal and vertical location of utilities and improvements, detailing of bridges and other structures, review of right-of-way maps, establishing control points, etc.
- c. Secure right of entry to private property for the purpose of performing any surveying and soil boring activities. In pursuance of the State's policy with the general public, the Engineer shall not commit acts which will result in damages to private property and shall make every effort to comply with the wishes and address the concerns of private property owners.

d. Verify the benchmark coordinates and establish additional horizontal and vertical control for the project. Provide supplemental field surveying services necessary to verify the Digital Terrain Model (DTM), produce topographic maps, establish the project baseline on the ground, locate and tie existing utilities to the project baseline, to tie the soil boring locations, and update topography. Coordinate geometry shall be based on and tied into State plane surface coordinate system. 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 Texas Board of Professional Land Surveying (TBPLS).

i. Determine Project Baseline: The project base line must be coincidental with, or parallel to, the stationed "Design Center Line." Base line control points shall be established using 15M(ASTM) (5/8 inch) iron rods, 36 inches long, at Point of Curvatures (P.C.'s), Point of Intersections (P.I.'s) and Point of Tangents (P.T.'s) of horizontal curves and at 1000 feet maximum intervals on tangents. Baseline control points shall be offset with set iron rods on both sides near the existing ROW lines at a measured distance. If available, coordinate to field tie to the Project baseline set by adjacent Engineer's for consistency and accuracy.

ii. Horizontal and Vertical Control Surveys (Project Control):

The maximum distance between control points shall not exceed 1500 feet. The coordinate location and elevation of control points or center panel points based on GPS surveys conducted by the Engineer's Surveyor shall meet standards of accuracy as set forth below. Reference may be made to standards of accuracy for horizontal and vertical control traverses as described in the Federal Geodetic Control Committee publication entitled Standards and Specifications for Geodetic Control Networks latest edition or the Texas Society of Professional Surveyors Manual of Practice for Land Surveying in the State of Texas as may be applicable.

DATUM. All coordinates shall be based on the North American datum (NAD) 83 (1993 Adjustment). All elevations shall be based on the North American vertical datum (NAVD) of 1988

All traverses conducted by the Engineer's Surveyor shall be tied to the National Geodetic Survey system, either directly or indirectly as follows:

The Engineer's Surveyor shall make sufficient measurements to existing National Geodetic Survey monuments to assess the angular, horizontal and vertical closure of each traverse.

The Engineer's Surveyor shall make sufficient measurements to monuments established by the State to assess the angular, horizontal and vertical closure of each traverse. All monuments established by the State for purposes of aerial photography control are based on the National Geodetic Survey system.

HORIZONTAL GROUND CONTROL

The coordinate location of the control or traverse points shall be based on traverses conducted by the Engineer's Surveyor meeting standards of accuracy as set forth below.

1. Azimuth closure shall not exceed 4.5 seconds times the square root of the number of traverse segments.
2. Position closure after azimuth adjustment shall not exceed 1 in 20,000.
3. In cases where a traverse approaches but does not entirely meet these standards of accuracy and the Engineer's Surveyor has assured itself that gross errors, mistakes and blunders have been eliminated, the Engineer's Surveyor shall submit the traverse data to the State for further review. The State will make a determination as to the acceptability of the traverse as an exception to the standard and notify the Engineer's Surveyor accordingly.

VERTICAL GROUND CONTROL

Elevations established on the control and benchmarks shall be conducted by the Engineer's Surveyor meeting standards of accuracy as set forth below.

1. Vertical closure shall not exceed 0.05 feet times the square root of the distance in miles.
2. In case where a traverse approaches but does not entirely meet these standards of accuracy and the Engineer's Surveyor has assured itself that gross errors, mistakes and blunders have been eliminated, the Engineer's Surveyor shall submit the traverse data to the State for review. The State will make a determination as to the acceptability of the traverse as an

- exception to the standard, and the State will notify the Engineer's Surveyor accordingly.
3. Document field work and submit field data to the State.
 4. Additionally, locate previously set control points and benchmarks established by State (State Datum); establish benchmark circuit (run levels) throughout the Project; establish additional benchmarks at intervals not to exceed 1,000 feet for the limits of the Project; tie benchmarks (station/offset) to Project baseline. Benchmarks shall be 20M (ASTM) (3/4-inch) diameter, 48 inches long, located near the existing ROW line at a measured distance. All benchmark circuits shall be tied to the State's elevation datum. Perform the benchmark circuits in accordance with good surveying practices. The Engineer's Surveyor shall verify the closure and submit adjustments to State for approval prior to beginning the field surveys.
 5. Provide 8 1/2" x 11" location sketches for all control points and benchmarks. These sketches shall be signed, sealed and dated by a Registered Professional Land Surveyor (RPLS).
- iii. Survey Control Index Sheets. The Engineer's Surveyor shall prepare a Survey Control Index Sheet and a Horizontal and Vertical Control Sheet, signed, sealed and dated by the professional engineer in direct responsible charge of the surveying and the responsible RPLS for insertion into the plan set. The Survey Control Index Sheet shows an overall view of the project control and the relationship or primary monumentation and control used in the preparation of the project; whereas, the Horizontal and Vertical Control sheet identifies the primary survey control and the survey control monumentation used in the preparation of the project. Both the Survey Control Index Sheet and the Horizontal and Vertical Control Sheet should be used in conjunction with each other.

The following information shall be shown on the Survey Control Index Sheet:

1. Overall view of the project and primary control monuments set for control of the project.
2. Identification of the control points.
3. Baseline and centerline.
4. Graphic (Bar) Scale.
5. North Arrow.

6. Placement of note "The survey control information has been accepted and incorporated into this PS&E" which is signed, sealed, and dated by a Texas Professional Engineer.
7. RPLS signature, seal and date.

The following information shall be shown on the Horizontal and Vertical Control Sheet:

1. Location for each control point, showing baseline and centerline alignment and North arrow.
 2. Station and offset (with respect to the baseline or centerline alignments) of each identified control point.
 3. Basis of Datum for horizontal control (base control monument, benchmark name and number, datum).
 4. Basis of Datum for the vertical control (base control monument, benchmark name, number, datum).
 5. Date of current adjustment of the datum.
 6. Monumentation set for Control (Description, District name/number and Location ties).
 7. Surface Adjustment Factor and unit of measurement.
 8. Coordinates (SPC Zone and surface or grid).
 9. Relevant metadata.
 10. Graphic (Bar) Scale.
 11. Placement of note "The survey control information has been accepted and incorporated into this PS&E" which is signed, sealed and dated by a Texas Professional Engineer.
 12. RPLS signature, seal and date.
 13. The State's title block containing District Name, County, Highway No., and CSJ.
- iv. Perform datum ties as required. If required, establish an elevation base on the project control's datum to other public entities published benchmarks.
 - v. Profile and cross section intersecting streets and driveways (to 50 feet outside ROW for driveways, and 200 feet for intersecting streets and 500 feet for intersecting streets greater than two lanes wide) for tie into project in obstructed view areas.
 - vi. Secure right-of-entry (short of litigation), as needed for the project, not commit acts which will result in damages to private property and the Engineer shall make every effort to comply with the wishes and address the concerns of private property owners.
 - vii. Tie to existing underground and overhead utilities (location, elevation,

- size and direction).
- viii. ROW staking for additional field topography related to design work.
 - ix. Determine any changes in topography from outdated maps due to development, erosion, etc.
 - x. Determine type of existing material, existing pavements, etc.
 - xi. Obtain profiles of existing drainage facilities.
 - xii. Obtain measurement of hydraulic opening under existing bridges.
 - xiii. Obtain top of manhole and flowline elevations, type and size, etc. of manholes, inlets, and valves of utilities.
 - xiv. Provide temporary signs, traffic control, flags, safety equipment, etc. and obtain necessary permits.
 - xv. Obtain ties to existing bridges or culverts that may conflict with new construction.
 - xvi. Verify Digital Terrain Model (DTM) (cross sections at panel points) and planimetric mapping (DGN). Obtain additional existing ground cross sections as necessary to supplement the DTM files. Obtain cross sections at the center panel points to verify the DTM.
 - xvii. Obtain Profile Grade Line (PGL) and the edges of slab at bent location.
 - xviii. Tie down soil boring locations by station, offset and surface elevation.
 - xix. The Engineer's Surveyor using wetlands delineation information provided by the State shall stake and fence the areas containing wetlands. The Engineer's Surveyor is to provide information back to the Engineer in an electronic file to be incorporated onto the Plan and Profile (P&P) sheets. This staking and fencing at the wetland areas shall be handled under separate agreement.
 - xx. The Engineer's Surveyor shall control traffic in and near surveying operations adequately to comply with the latest edition of the TMUTCD. In the event field personnel must divert traffic or close traveled lanes, a Traffic Control Plan shall be prepared by the Engineer's Surveyor and approved by the State prior to commencement of field work. A copy of the approved plans shall be in the possession of field personnel on the job site at all times and shall be made available to State personnel upon request.
 - xxi. If at any time during the contract period, the Engineer's Surveyor encounters unforeseen circumstances which may materially affect the scope, complexity or character of the work authorized by the State, the Engineer's Surveyor shall notify the State in writing immediately with a complete description of the circumstances encountered.

- xxii. The following definitions shall apply:
- a. DGN-Two dimensional digital map containing natural ground features and improvements plotted in a horizontal plane along the X and Y axes. A planimetric map does not include relief elements such as spot elevations, cross-sections, or contours.
 - b. DTM-Three dimensional digital model of the ground containing those features necessary to define surface relief. A three dimensional model does not normally contain those planimetric features not necessary to define relief.
 - c. Horizontal and vertical ground control-Survey control points for which the X and Y coordinate and elevation have been determined by on the ground surveys.
- e. Supplement Survey with LiDAR assuming data collection within the ROW from Loop 1604 to north of Marshall, to supplement data provided by the State. No survey outside of ROW is anticipated
- i. **LiDAR CONTROL:** Multiple project survey control points will be occupied using a survey quality Global Positioning System with the methods approved by the State to achieve the 0.06' and 0.06' accuracies stated for the project. The project control points will be previous control points recovered for this project or new control: points set in accordance with Function Code 160, item 1 listed above.
 - ii. Prior to the mobile scanning operations, additional control in the form of painted targets on the roadway shoulder surface will be set and surveyed throughout the project limits. The targets will be placed at 800- to 1,200-foot intervals in order to assure final data compliance with State specifications. The targets will be surveyed and tied into the project control utilizing conventional GPS survey methods supplemented with differential leveling suitable to meet the specifications. During scanning operations, GPS receivers will occupy two survey control points. The GPS data collected from the project control points will be processed with the survey control point data and the scanning system's GPS data to position the point cloud.
 - iii. **SCANNING OPERATIONS:** The mobile scanning system will be deployed to capture scan data and digital images according to the following:
 - 1. Data acquisition of the project limits will proceed according to the plan approved by the Texas DOT during the project kickoff meeting.

2. A minimum of two passes (drive lines) will be collected in each direction on each highway to ensure data coverage and density.
3. The mobile scanning system will acquire scan data and digital images for visible features within the apparent existing highway right-of-ways.
4. Digital imagery will be collected to assist in the classification of LiDAR data. The images will be used as reference material only to the LiDAR data and will not be interpolated for any measurements.
5. Vehicle speeds will be at posted speeds while scanning highway main lanes, ramps and crossovers. The system settings will be set to collect 1,000,000 points per second in order to capture all visible features along each drive line. The combination of vehicle speed and system settings will provide data densities required to meet or exceed stated accuracy standards.
6. Upon completion of the data acquisition, the IMU navigation data will be processed and reviewed in the field prior to demobilization.
7. During the scanning operations, the surveyors occupying the base stations will also collect multiple survey check points on features visually identifiable within the LiDAR data set. Using the conventional survey data from the check points, a statistical comparison test will be run to verify that the geodetic positioning of the LiDAR data meets the accuracy standards required for the project

iv. POST-DATA PROCESSING

1. Project GPS files will be processed to the existing primary horizontal and vertical project datum.
2. Utilizing the project GPS control and inertial data, a Smoothed Best Estimate Trajectory (SBET) showing the three dimensional route of the mobile mapping system, will be created and evaluated for accuracies.
3. The SBET file will be utilized to spatially reference the laser range data to create the LAS point cloud data. The LAS data will be checked for data inconsistencies, gaps and data separations.

4. The LAS data will be calibrated to the painted target points. The edges of each drive will be tied together to ensure homogeneous data in areas of scanning overlap.
 5. The conventional survey check points collected during the scanning operations will be extracted from the calibrated LAS data as the final check on data accuracy compliance with the project specifications. A Root Mean Square Error (RMSE) statistic comparing the check points to the corrected point cloud is produced for both horizontal and vertical error. A report summarizing the accuracy is completed and reviewed by the survey project manager. Any data that does not meet the required accuracy is reprocessed, or if necessary, recollected in the field and run through the quality assurance verification process again.
 6. Digital imagery extracted and converted to JPG format and compressed, if required.
 7. Project "tiles" are developed, breaking the project data into usable files sizes of +/- 300 megabytes. Depending upon scan data density, the tile sizes will range from 800- to 1,000-foot strips of scan data across the project.
 8. Project data will reside with HNTB in its Chicago office for the duration of the project
- v. **LiDAR POST PROCESSING, DELIVERABLE CREATION.**
Calibrate LiDAR data (LAS files) to the project control network and imagery files.
- vi. **LiDAR EXTRACTION** The HNTB Team will utilize Certainty 3D TopoDOT software working inside of MicroStation V8i for all LiDAR extraction tasks for the creation of the 2D and 3D base mapping files. All base mapping deliverables are run through an independent comparison against the calibrated LiDAR data and a report of the findings is created.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Control Index Sheets in electronic Microstation® and .pdf format.
- LAS point cloud data stored on HNTB system.

B. Digital Planimetric Mapping (DGN) and Digital Terrain Modeling (DTM).

1. **Update DGN files as necessary** covering the specific work location, meeting the State's standards and specifications. All areas obscured by vegetation or other obstructions resulting in voids shall be surveyed on the ground.
2. **Update DTM files as necessary** covering the specific work location, meeting the State's standards and specifications. All areas obscured by vegetation or other obstructions resulting in voids shall be surveyed on the ground.
3. **Survey Technical Requirements.** Perform each design and construction survey in compliance with the following technical requirements:
 - a. Each design survey and construction survey shall be performed under the direct supervision of a Registered Professional Land Surveyor currently registered with the Texas Board of Professional Land Surveying.
 - b. Horizontal and Vertical ground control established by conventional methods conducted by the Engineer's Surveyor shall meet standards of accuracy as set forth in the Texas Society of Professional Surveyors (TSPS) Manual of Practice for Land Surveying in the State of Texas to the category and condition delineated in each Work Authorization. Run vertical control using digital levels only unless otherwise approved by the State.
 - c. Horizontal and vertical ground control used for design surveys and construction surveys based on Global Positioning system (GPS) surveys conducted by the Engineer's Surveyor shall meet standards of accuracy as set forth in the Federal Geodetic Control Committee publication entitled Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques, reprinted with corrections August 1, 1989, or the State's GPS Manual of Practice, latest edition, as specified in each Work Authorization.
 - d. Side shots or short traverse procedures used to determine horizontal and vertical locations shall meet the following criteria:
 - e. Side shots or short traverses shall begin and end on horizontal and vertical ground control as described in the TSPS Manual of Practice for Land Surveying in the State of Texas to the category and condition delineated in each Work Authorization.
 - i. Use standards, procedures and equipment 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.

- ii. Use standards, procedures and equipment 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 0.03 of one foot.
 - c. Cross-sections and profiles less than 0.1 of one foot.
 - d. Bore holes less than 0.5 of one foot.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Updated DGN and DTM files in on CD and via electronic file transfer in electronic Microstation® and .pdf format.

C. Roadway Design Controls

Inform the State of changes made from previous initial meetings regarding each exception, waiver, and variance that may affect the design. Cease all work related to the impacted area until the exceptions, waivers, and variances have been resolved between the Engineer and the State unless otherwise directed by the State to proceed. 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.

1. Geometric Design.

- a. **Schematic Utilization:** Refine the horizontal and vertical alignments of the design schematic in English units for main lanes, ramps, direct connectors, frontage roads, cross streets, including grade separation structures. Determine vertical clearances at grade separations and overpasses, taking into account the appropriate percent grade and super-elevation rate. Minor modifications in the alignments will be considered to provide optimal design. Modifications must be coordinated with the State Project Manager.
The Engineer should consider possible future expansion of LP 1604 and avoid straddle bents over LP 1604 and US 281 mainlanes. Constructability of design elements should be considered in the schematic refinement.

2. Roadway Design.

- a. Provide roadway plan and profile drawings using 3D 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 sheets or same sheets (this depends upon width of pavement) for main lanes, frontage roads and direct connectors.

The plan view shall contain but is not limited to the following design elements. Elements shall be included as needed to provide clarity of intent and design:

- i. 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.
- ii. Pavement edges for all improvements (mainlanes, direct connectors, ramps, cross streets, driveways and frontage roads).
- iii. Lane and pavement width dimensions.
- iv. The geometrics of ramps, and auxiliary lanes.
- v. Proposed structure locations, lengths and widths.
- vi. Direction of traffic flow on all roadways. Lane lines and arrows indicating the number of lanes shall also be shown.
- vii. Drawing scale shall be 1"=100'
- viii. Control of access line, & ROW lines and easements.
- ix. Begin/end superelevation transitions and cross slope changes.
- x. Limits of riprap, block sod, and seeding.
- xi. Existing utilities and structures.
- xii. Benchmark information.
- xiii. Radii call outs, curb location, Concrete Traffic Barrier (CTB), guard fence, crash safety items and American with Disabilities Act Accessibility Guidelines (ADAAG) compliance items.
- xiv. Roadway Quantities and provide calculations to the State.

The profile view shall contain but is not limited to the following design elements. Elements shall be included as needed to provide clarity of intent and design:

- xv. Calculated profile grade for proposed mainlanes (cite direction), direct connectors, ramps, cross streets and frontage roads, if applicable. Vertical curve data, including "K" values shall be shown.
- xvi. Existing and proposed profiles along the proposed centerline of the mainlanes, the outside shoulder line of ramps, and the outside gutter line of the designated (north, south, east or west) bound frontage roads.

- xvii. Water surface elevations at major stream crossing for 10, 25, 50, and 100 year storms.
- xviii. Calculated vertical clearances at grade separations and overpasses, taking into account the appropriate superelevation rate, superstructure depth and required clearance.
- xix. The location of interchanges, mainlanes, grade separations and ramps (shall include cross sections of any proposed or existing roadway, structure, or utility crossing).
- xx. Drawing vertical scale to be 1"=10'.

3. **Typical Sections:** Typical sections shall be required for all proposed and existing roadways and structures. Typical section information includes but is not limited to width of travel lanes, shoulders, outer separations, border widths, curb offsets, HOV lanes, and ROW. The typical section shall also include PGL, centerline, pavement design, longitudinal joints, side slopes, sodding/seeding limits, concrete traffic barriers and sidewalks, if required, station limits, common proposed and existing structures including retaining walls, existing pavement removal, riprap, limits of embankment and excavation, etc.
4. **Mainlane and Frontage Road Design:** Provide the design of US 281 mainlanes with full shoulders, direct connectors, frontage roads, entrance and exit ramps, HOV lanes and auxiliary lanes. The design shall be consistent with the approved schematic or refined schematic and the current Roadway Design Manual.
5. **Interchange.** Be responsible for the complete design of the mainlanes and ramps, auxiliary lanes and direct connectors, and HOV lanes as shown on the schematic. Provide structural details of the direct connectors interchange to be included with the PS&E submittal. The interchange design shall be consistent with the schematic design and shall include a plan and profile of the thoroughfares, intersection layout, drainage structures, sidewalks, geometrics, signalization, turnaround details, and transitions to existing roadway. The design shall consider future expansion of Loop 1604.
6. **Cross Streets.** Provide an intersection layout at Sonterra Blvd, Redland Rd, Encino Rio, Evans Rd and Stone Oak/TPC Pkwy detailing the pavement design, ADA and drainage design at the intersection of each roadway. The layout shall include the curb returns, geometrics, transition length, stationing, pavement and drainage details. Design for full pavement width to the ROW and provide a transition to the existing roadway.

- 7. Cut and Fill Quantities.** Develop an earthwork analysis to determine cut and fill quantities and provide final design cross sections at 100 foot intervals. Cross sections shall be delivered in standard GEOPAK® format on 11"x17" sheets or roll plots and electronic files. Provide all criteria and input files used to generate the design cross sections. Cross sections and quantities shall consider existing pavement removals. Annotation shall include at a minimum existing right of way, side slopes (front & back), profiles, etc.
- 8. Plan Preparation.** Prepare roadway plans, profiles and typical sections for the proposed improvements. Prior to the 30% submittal, schedule a workshop to review profiles and cross-sections with the State. The profile and cross sections shall depict the 5, 10, 25, 50, 100 year water surface elevations. 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 will enable the State to determine the most feasible proposed roadway profile. The State will approve the proposed profiles and cross sections before the Engineer continues with the subsequent submittals. This scope of services and the corresponding cost proposal are based on the Engineer preparing plans to construct freeway main lanes, direct connectors, ramps, frontage roads, and cross streets at intersections. The roadway plans shall consist of the types and be organized in the sequence as described in TxDOT Plans, Specifications and Estimate Preparation Manual.
- 9. Pavement Design.** Incorporate approved pavement design into plans and specifications.
- 10. Pedestrian and Bicycle Facilities.** Coordinate with the State to incorporate pedestrian and bicycle facilities as required or shown on the project's schematic. All pedestrian/bicycle facilities must be designed in accordance with the latest Americans with Disabilities Act Accessibility Guidelines (ADAAG), the Texas Accessibility Standards (TAS), and the AASHTO Guide for the Development of Bicycle Facilities.
- 11. Form 1002.** Prepare and submit State Form 1002 "Proposed Basic Design Data" (Page 3) between the Design Concept conference (DCC) and 30% design. Include documentation of roadway design exceptions and waivers as applicable. Include existing and proposed typical sections, location map and exhibits for design exceptions and waivers.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Plan sheets in accordance with the PS&E Stage submittals
- Design files in Microstation® 2D and 3D.
- Electronic output files in Microstation® and GeoPak® format necessary for contractor to perform Intelligent Grading during construction.

D. Drainage**1. Drainage Report.**

- a. Review existing drainage analysis/reports
- b. Prepare a single comprehensive drainage study and report of the project area. The Engineer shall design and construct the outfalls to avoid any adverse impacts. The criteria below are meant to clarify and supplement but not supersede the TxDOT Hydraulic Design Manual. Should any apparent conflicts arise, the Engineer should consult the State for clarification. This task includes general drainage management. This task includes 16 progress meetings (8 month design schedule of twice monthly meetings with the State's PM). This task includes 32 weekly discipline coordination meetings (8 month design schedule of twice monthly meetings with the State's PM):
 - i. Obtain current hydrologic and hydraulic computer models from government agencies and review.
 - ii. Current models will be updated to existing conditions using the available Project data, then submitted to the governmental agency with the revised existing condition and proposed condition models.
 - iii. Identify all existing drainage outfalls within the limits of the project. Delineate drainage area boundaries for each drainage outfall including any area outside the limits of the project that drain to the outfall. Existing storm drain systems will be located and analyzed to the extent necessary for this study. For each drainage area compute the time of concentration and runoff curve number.
 - iv. Compute existing condition flows at all outfalls draining into receiving streams. Utilize 24-Hour rainfall depths in the Atlas of Depth-Duration Frequency of Precipitation Annual Maxima for Texas (USGS/TxDOT Report 2004-5041) and rainfall distributions employed in the most recent FEMA studies of the watersheds of interest to compute discharges for 5, 10, 25, 50, 100 yr rainfall frequencies.
 - v. Delineate proposed condition drainage area boundaries. Include areas that are outside the project that drain to the proposed

outfalls. Coordinate the drainage area delineation with adjacent projects, if applicable. Measure the proposed condition impervious cover within each drainage area and compute the runoff curve number and the proposed condition time of concentration. Existing land use condition will be assumed for drainage areas outside the proposed ROW unless there is knowledge of any planned development. The Engineer shall coordinate with the State to obtain any information pertaining to any planned developments adjacent to the Project Corridor. If it is determined that a planned development is eminent and will utilize any part of the Project drainage conveyance system within the ROW, then the proposed build out conditions of the development shall be used in calculating runoff. Preliminary proposed condition storm drains will be located and sized.

- vi. Compute proposed condition flows at all proposed outfalls draining into receiving streams. Utilize rainfall data as defined above.
- vii. Determine hydrologic impacts from the proposed project by comparing the existing and proposed flow rates at each outfall,
- viii. Determine hydraulic impacts from the proposed project by comparing the existing and proposed water surface elevations at each outfall
- ix. Determine mitigation alternatives if the proposed project has any adverse impact. The mitigation alternatives may include storm water detention basins and/or adjustments to proposed drainage area boundaries, possible adjustment to roadway profiles and adjustment of preliminary storm drains to accommodate required mitigation alternatives. Approximately 17 mitigation locations are estimated from the schematic.
- x. Three alternative mitigation concepts will be developed to access preferred detention configurations: (1) maximize surface detention pond facilities under lengthened bridges; (2) relocate surface detention pond facilities where possible to long linear concrete facilities adjacent to the main lanes; (3) relocate surface detention pond facilities to underground box culvert systems. A work shop will be held to facilitate decisions on the type of mitigation. Once determined, the sizing of the drainage detention facilities, hydrologic and hydraulic information will be provided to the State.
- xi. Prepare conceptual 100 year sheet flow analysis for project utilizing existing and proposed conditions

- xii. For drainage areas, limit the outfalls into existing storm sewer to existing capacity flows, which will be determined by the Engineer. Alternate flow routes, if feasible, will be looked into for relieving storm sewer overload.
 - xiii. Drainage areas and flows for cross culvert drainage systems will be determined as part of the comprehensive drainage report. Once determined, the sizing of the drainage crossings, hydrologic and hydraulic information will be provided to the State
 - xiv. Manhole head losses are to be computed as per the State's direction. Also, Geopak Drainage computations are not needed for hydraulic grade line investigations. The head losses will be computed with a pressure flow equation generally applicable to pipe running full flow. A hydraulic grade line starting at the outfall channel will be determined for each storm sewer system in order to obtain a design tailwater for each existing system. The design tailwater will be the starting basis for the design of the proposed storm sewer system.
 - xv. Prepare a report signed, sealed and dated by a registered/licensed engineer that discusses the pertinent site information, analysis assumptions, hydrologic and hydraulic analyses, and the proposed design of any mitigation measures. Report should include a table that lists existing flows, proposed flows without mitigation, and proposed flows with mitigation (if mitigation proposed). A draft report with recommended mitigation measures will be submitted at the 60% Design Submittal. A Final Report with mitigation measures agreed by the State will be submitted at 100% Design Submittal.
- 2. Culvert and Storm Drain Design.** Develop design details that minimize the interference with the passage of traffic or incur damage to the highway and local property. Provide layouts, drainage area maps, and design of all drainage components. Design all conventional storm drainage and cross drainage in conformance with the latest edition of State Hydraulic Manual, Districts' criteria, and any specific guidance provided by the State. Storm drain design shall be performed using GEOPAK Drainage. Cross drainage design shall be performed using Geopak Drainage, HY 8 or HEC RAS. When oversized storm drains are used for detention, evaluate the hydraulic gradeline throughout the whole system, within project limits, for the design frequency (ies). Coordinate with the

State any proposed changes to the detention systems. The State will assess the effects of such changes on the comprehensive drainage studies. Coordinate with the State to verify that all proposed drainage systems accommodate the proposed construction phasing plan.

- a. Prepare cross-culvert cross sections. Culverts listed are those shown on the current approved schematic and represent the anticipated required major drainage structures. Additional structures to provide the required drainage frequencies are to be designed as necessary as part of the overall storm drainage plans.
 - i. 4-10x7 RCBC at 352+00
 - ii. 2- 2x10 box at 359+00
 - iii. 1 -10x7 box at 371+50
 - iv. 1- 3x3 box at 379+00
 - v. 1 - 3x3 box at 390+00
 - vi. 1- 3x3 box at 395+00
 - vii. 1-6x3 box at 411+00
 - viii. 1- 9x5 box at 430+00
 - ix. 3-6x3 box at 451+00
 - x. 1- 4x3 box at 470+00
 - xi. 1- 3x3 box at 477+00
 - xii. 1- 4x3 box at 483+00
 - xiii. 1- 6x5 box at 490+00
 - xiv. 1- 3x3 box at 507+00
 - xv. 1- 3x3 box at 513+00
 - xvi. 1-3x3 at 529+00
- b. Identify areas requiring trench protection, excavation, shoring and de-watering.
- c. Prepare drainage area maps.
- d. Prepare plan/profile sheets for storm drain systems and outfall ditches.
- e. Prepare cross street and driveway culvert design. Plan/profile sheets will not be prepared. Design will be presented in summary calculation tables.
- f. Select standard details from State or District's list of standards for items such as inlets, manholes, junction boxes and end treatment, etc.
- g. Prepare details for non-standard inlets, manholes and junction boxes.
- h. Prepare drainage details for outlet protection, and outlet structures.
- i. Identify pipe strength requirements.
- j. Prepare drainage facility quantity summaries.
- k. Identify potential utility conflicts and design around them, wherever possible.

- d. Prepare calculations and prepare plan sheets and details for temporary and permanent Best Management Practices (BMP). Provide calculations and summary for all water quality treatment for submittal of the WPAP to TCEQ.
- e. Prepare plans such that all water quality treatment commitments in the Environmental Impact Statement (EIS) are adhered to in the design of the water treatment calculations and BMPs.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Preliminary drainage report in printed and electronic .pdf format.
- Final drainage report in printed and electronic .pdf format.
- Preliminary alternatives mitigation concepts workshop.
- Preliminary alternatives water quality BMP workshop.
- Plan sheets in accordance with the PS&E Stage submittals (Concept workshops, 30%,60%,90%,100%)
- Water Pollution Abatement Plan in printed and electronic .pdf format

E. Signing, Pavement Markings and Signalization (Permanent)**1. Signing.**

- a. Prepare drawings, specifications and details for all signs.
 - i. Signing - Small Sign Layouts
 - ii. Signing - Large and Overhead Sign Layouts
 - iii. Signing - Large and Overhead Elevation Layouts
 - iv. Signing - Guide Sign Detail Sheets
 - v. Signing - Small Sign Summary Sheets
 - vi. Signing - Large Sign Summary Sheets
 - vii. Signing - Standards
- b. Coordinate with the State for overall temporary, interim and final signing strategies and placement of signs outside contract limits.
- c. 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.
- d. Designate the shields to be attached to guide signs.
- e. Illustrate and number the proposed signs on plan sheets.
- f. Select each sign foundation from State Standards.

2. Pavement Marking.

- a. Detail both permanent and temporary pavement markings and channelization devices on plan sheets.
 - i. Pavement Marking - Main Lane Layouts
 - ii. Pavement Marking - Frontage Road Layouts
 - iii. Pavement Marking - Intersection Layouts
- b. Coordinate with the State (and other Engineers as required) for overall temporary, interim, and final pavement marking strategies.
- c. Select Pavement markings from the latest State standards.

3. Traffic Warrant Studies.

- a. Prepare a traffic signal warrant study to support their recommendation for the continuous activation of an existing traffic signal or a proposed traffic signal based on projected volumes at the following locations: Sonterra Blvd, Redland Rd, Encino Rio, Evans Rd, Stone Oak/TPC Pkwy, and Marshall. Each warrant study shall include addressing pedestrian signals along with obtaining both traffic and pedestrian counts. Count locations along US 281 include:
 - i. 1604 (4 locations)
 - ii. Sonterra (4 locations)
 - iii. Redland (2 locations)
 - iv. Encino Rio (2 locations)
 - v. Evans (2 locations)
 - vi. Stone Oak (2 locations)
 - vii. Marshall (2 locations)

4. **Traffic Signals.** Based upon the results of the Traffic Warrant Studies, identify and prepare Traffic Signal Plans for all warranted traffic signals. Confirm the power source for all signals and coordinate with the appropriate utility agency. Traffic Signal Plans shall be signed and sealed by a Texas Registered Professional Engineer. Develop all quantities, general notes, and specifications and incorporate the appropriate agency standards required to complete construction. Traffic signal poles, fixtures, signs, and lighting shall be designed per the San Antonio District Urban Design Themes guidelines – Hill Country Region. Signals to be included with this Project:

- a. Redland
- b. Encino Rio
- c. Evans Road
- d. Stone Oak
- e. Marshall Road

- a. Provide Traffic Signal Plans including but not limited to the following information:
 - i. Layout
 - ii. Estimate and quantity sheet
 - a. List of all bid items
 - b. Bid item quantities
 - c. Specification item number
 - d. Pay item description
 - iii. General notes and specification data.
 - iv. Condition diagram
 - a. Highway and intersection design features
 - b. Roadside development
 - c. Traffic control including illumination
 - v. Plan sheets
 - a. Existing traffic control that will remain (signs and markings)
 - b. Existing utilities
 - c. Proposed highway improvements
 - d. Proposed installation
 - e. Proposed additional traffic controls
 - f. Proposed illumination attached to signal poles.
 - g. Proposed power pole source
 - vi. Notes for plan layout
 - vii. Wiring Diagram Sheets
 - viii. Quantity and Phasing sheets
 - a. Signal locations
 - b. Signal indications
 - c. Phase diagram
 - d. Signal sequence table
 - e. Flashing operation (normal and emergency)
 - f. Preemption operation (when applicable)
 - ix. Construction detail sheet(s)
 - a. Poles (State standard sheets)
 - b. Detectors
 - c. Pull Box and conduit layout
 - d. Controller Foundation standard sheet
 - e. Electrical chart
 - x.
- b. General Requirements
 - i. Contact local utility company
 - a. Confirm power source

- ii. Prepare governing specifications and special provisions list
- iii. Prepare project estimate
- iv. Conduct traffic counts and prepare Traffic Signal Warrant Studies for all proposed and existing traffic signals at designated locations.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Traffic Warrant Studies in printed and electronic .pdf format.
- Plan sheets in accordance with the PS&E Stage submittals:
 - Layouts
 - Estimate and quantity sheet
 - General notes and specification data.
 - Condition diagram
 - Plan sheets
 - Notes for plan layout
 - Phase sequence diagram(s)
 - Construction detail sheet(s)
 - Sign Detail Sheets
 - Governing specifications and special provisions list
 - Traffic counts and Traffic Signal Warrant Studies for all proposed and existing traffic signals at designated locations.
 - Summary of Quantities
 - Sign Detail Sheets

F. Miscellaneous (Roadway)

1. **Retaining Walls and Miscellaneous Structures.** Develop each retaining wall design and determine the location of each soil boring needed for the foundation design of each retaining wall in accordance with the Geotechnical Manual. Prior to preparation of retaining wall layouts, prepare a comparative cost analysis of different types of retaining walls versus roadway embankment, pavement, soil stabilization, retaining walls type, and available ROW to determine optimum selection based on economics, construction time duration, ROW encroachments (need for construction easements) and construction feasibility. Submit early in the plan preparation the retaining wall layouts to obtain approval from the State. Incorporate all necessary information from above referenced manuals and respective checklists into the retaining wall layouts. For stage construction, indicate limits of existing retaining walls for removal and reconstruction, and determine limits of temporary retaining walls to be shown on the TCP.

The approximate limits of each retaining wall shall be based on Station or length. Notify the State the type of retaining walls that will be used for Cut and Fill location. Retaining wall types shall include:

- Spread Footing Walls (High Footing Pressure Design and Low Footing Pressure Design). Select a spread footing wall for fill situation when considerable room behind the walls is available for forming, constructing, and backfilling the footings and stem. Notify the State when the quantity is less than 1000 SF to have as option in the plans to cast in place a spread footing wall design. This selection has to be approved to State.
 - Mechanically Stabilized Earth (MSE) Walls. Prepare the retaining wall layouts showing plan and profile or retaining walls for design by a State approved vendor. The Engineer is responsible for design of geometry and wall stability. Incorporate a slope of 4:1 or flatter from the existing and finished ground line elevation to the face of the retaining wall.
 - Soil Nailed Walls.
 - Rock Nailed Walls.
 - Drilled Shaft Walls.
 - Temporary MSE Walls
- a. Provide layouts (scale 1"= 40'), elevations, quantity estimate, summary of quantities, typical cross sections, aesthetic details and structural details of all retaining walls within the project (all stations are mainlane and to the nearest 50 feet). Retaining Walls listed are those shown on the current approved schematic and represent the anticipated required Retaining Walls. Additional walls will be determined during design:
- i. SB to 1604 (west) STA 0352+50 to 0370+50
 - ii. SB to 1604 (east) STA 0352+50 to 0359+75
 - iii. 1604 to NB (west) STA 0353+25 to 0359+75
 - iv. 1604 to NB (east) STA 0353+50 to 0370+50
 - v. Redland South Abutment STA 0010+00 to 0011+70
 - vi. Redland North Abutment STA 0010+00 to 0011+70
 - vii. GP Southbound STA 0373+90 to 0382+50
 - viii. GP Northbound STA 0373+90 to 0393+50
 - ix. SB exit to Redland (west) STA 0015+75 to 0021+75
 - x. SB exit to Redland (west) STA 0028+50 to 0032+75
 - xi. SB exit to Redland (east) STA 0012+75 to 0021+75
 - xii. SB exit to Redland (east) STA 0028+50 to 0033+00
 - xiii. GP Northbound STA 0392+00 to 0407+50
 - xiv. GP Southbound STA 0406+00 to 0407+50
 - xv. Encino Rio South Abutment STA 0010+00 to 0011+70

- xvi. Encino Rio North Abutment STA 0010+00 to 0011+70
- xvii. GP Northbound STA 0410+90 to 0424+25
- xviii. GP Southbound STA 0410+90 to 0422+00
- xix. NB Ent from Encino Rio STA 0421+00 to 0432+75
- xx. GP Southbound STA 0425+00 to 0432+75
- xxi. Evans South Abutment STA 0010+00 to 0011+82
- xxii. Evans North Abutment STA 0010+00 to 0011+82
- xxiii. GP Northbound STA 0436+25 to 0442+00
- xxiv. GP Southbound STA 0436+25 to 0450+25
- xxv. GP Northbound STA 0445+50 to 0449+50
- xxvi. GP Southbound STA 0449+00 to 0455+50
- xxvii. NBFR STA 0451+00 to 0462+00
- xxviii. SBFR STA 0459+25 to 0472+25
- xxix. NB Ent from Evans STA 0470+50 to 0479+80
- xxx. HOV Lanes (west) STA 0462+00 to 0468+25
- xxxi. HOV Lanes (east) STA 0462+00 to 0468+25
- xxxii. HOV Lanes South Abutment (60 lf)
- xxxiii. SB exit to Evans STA 0472+25 to 0479+80
- xxxiv. Stone Oak South Abutment STA 0010+00 to 0012+38
- xxxv. Stone Oak North Abutment STA 0010+00 to 0012+20
- xxxvi. GP Northbound STA 0483+00 to 0493+25
- xxxvii. GP Southbound STA 0483+00 to 0488+00
- xxxviii. HOV Lanes (NB) STA 0493+25 to 0504+00
- xxxix. NB HOV Ent from Stone Oak STA 0500+25 to 0515+00
 - xl. SBFR STA 0497+00 to 0509+75
 - xli. Marshall Road Abutments
 - xl. GP NB S of Marshall
 - xl. GP NB N of Marshall
 - xl. GP Interim SB N of Marshall
 - xl. GP Interim SB S of Marshall
 - xl. South Abutment @ Marshall
 - xl. North Abutment @ Marshall
 - xl. NBFR South of Marshall
 - xl. SBFR North of Marshall

- b. Provide Noise Wall layouts (scale 1"= 40'), elevations, quantity estimate, summary of quantities, typical cross sections and structural details of the noise wall within the project. Prepare the design and plans for the possible noise wall along the SB ROW from STA 413+00 to STA 432+00 (mainlane stationing).

- c. Determine if any additional walls are required and verify the need for and length of the walls as shown on the schematic.
- d. . The specific requirements for each wall are as follows:
 - i. Layout Plan:
 - a. Designation of reference line
 - b. Beginning and ending retaining wall stations Offset from reference line
 - c. Horizontal curve data
 - d. Total length of wall
 - e. Indicate face of wall
 - f. All wall dimensions and alignment relations (alignment data as necessary)
 - g. Soil boring locations
 - h. Drainage, signing, lightning, etc. that is mounted on or passing through the wall.
 - i. Subsurface drainage structures or utilities which could be impacted by wall construction.
 - ii. Elevation:
 - a. Top of wall elevations
 - b. Existing and finished ground line elevations
 - c. Vertical limits of measurement for payment
 - d. Type, limits and anchorage details of railing (only if Traffic Railing foundation standard is not being used on this project)
 - e. Top and bottom of wall profiles plotted at correct station & elevation.
 - f. Underdrains
 - g. Any soil improvement, if applicable.
 - h. Drainage, signing, lighting etc. as noted above
 - i. Drainage structures and utilities as noted above
 - iii. Sectional View:
 - a. Reinforced volume
 - b. Underdrain location
 - c. Soil improvements, if applicable.
 - iv. Aesthetic Details:
 - a. Develop retaining wall aesthetic details consistent with the San Antonio Urban Design Guidelines – Hill Country Region theme. Coordinate all Aesthetic Guidelines and Details with the San Antonio District Landscape Architect. Sign and seal the district details or develop details that are comparable to the district details.
 - v. General Guidelines for Retaining Walls:

- a. Perform design calculations to check the external stability of the walls including slope stability, bearing, sliding and overturning and detail drawings in accordance with the standard requirements of the State.
- b. For retaining wall submittals, refer to the State's Bridge Division website for current requirements.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Noise Wall Layouts and details in accordance with the PS&E Stage Submittals
 - Retaining Wall Layouts and details in accordance with PS&E Stage Submittals
 - Retaining wall calculations in native and printed format (100% submittal only)
 - Temporary Retaining Wall plans in support of the traffic control as specified in the PS&E Stage Submittals
- 2. Traffic Control Plan, Detours, Sequence of Construction.** Prepare Traffic Control Plans (TCP) for the project. The Engineer is to complete Form 2229-Significant Project Procedures along with Page 4 (Rev 4/11) of Form 1002, specifically titled Accelerated Construction Procedures. A detailed TCP shall be developed in accordance with the latest edition of the TMUTCD. The Engineer is to implement the current Barricade and Construction (BC) standards as applicable. Interface and coordinate phases of work, including the TCP.
- a. Provide a written narrative of the construction sequencing and work activities per phase and determine the existing and proposed traffic control devices (regulatory signs, warning signs, guide signs, route markers, construction pavement markings, barricades, flag personnel, temporary traffic signals, etc.) to be used to handle traffic during each construction sequence. Show proposed traffic control devices at grade intersections during each construction phase (stop signs, flag person, signals, etc.). Show temporary roadways, ramps, structures and detours required to maintain lane continuity throughout the construction phasing. If temporary retaining walls are required, show the limits on the applicable TCP.
 - b. Coordinate with the State in scheduling a Traffic Control Workshop and submittal of the TCP for approval by the District Safety Review Team (DSRT). Assist the State in coordinating mitigation of impacts to adjacent schools, emergency vehicles, pedestrians, bicyclists and neighborhoods.
 - c. Develop each TCP to provide continuous, safe access to each adjacent property during all phases of construction and to preserve existing access.

- Notify the State in the event existing access must be eliminated, and must receive approval from the State prior to any elimination of existing access.
- d. Design temporary drainage to replace existing drainage systems disturbed by construction activities or to drain detour pavement. Show horizontal and vertical location of culverts and required cross sectional area of culverts.
 - e. Prepare each TCP in coordination with the State. The TCP shall include interim signing for every phase of construction. Interim signing shall include regulatory, warning, construction, route, and guide signs. Interface and coordinate phases of work, including the TCP, with adjacent Engineers, which are responsible for the preparation of the PS&E for adjacent projects.
 - f. Maintain continuous access to abutting properties during all phases of the TCP. Develop a list of each abutting property along its alignment. Prepare exhibits for and attend meetings with the public, as requested by the State.
 - g. Make every effort to prevent detours and utility relocations from extending beyond the proposed ROW lines. If it is necessary to obtain additional permanent or temporary easements and Right-of-Entry, notify the State in writing of the need and justification for such action. Identify and coordinate with all utility companies for relocations required.
 - h. 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.
 - i. 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.
 - j. Develop 3d models for the three phases of construction for use in communicating to stakeholders and the public traffic shifts and patterns during construction.
 - k. Analyze temporary traffic signals for the preferred traffic control plan for each of 3 phases of construction to develop recommended intersection geometry and signal phasing at up to 20 intersections

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Traffic control Plans and details as specified in the PS&E Stage Submittals including phased intersection geometry and signal phasing.
- 3D model for the three phases of construction

3. Temporary Traffic Signals and Illumination: If the Engineer determines that an existing traffic signal will be affected by the project, then address the adjustment/realignment of traffic signal heads and the use of detection for mainlanes and side streets on the plans. Obtain traffic movement counts to address any new timing plans to minimize the impact during construction and to determine the storage length needed for left and right turn movements. Address lighting of signalized intersections, and shall coordinate with local utilities as approved by the State. Locations in this project include the 7 superstreet turnarounds.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Plan sheets in accordance with the PS&E Stage submittals:
 - Layouts
 - Estimate and quantity sheet
 - General notes and specification data.
 - Condition diagram
 - Plan sheets
 - Notes for plan layout
 - Phase sequence diagram(s)
 - Construction detail sheet(s)
 - Sign Detail Sheets
 - Prepare governing specifications and special provisions list
 - Provide traffic counts for all temporary traffic signals at designated locations.
 - Summary of Quantities
 - Sign Detail Sheets

- 4. Illumination.** Utilize TxDOT's Highway Illumination Manual and other deemed necessary State approved manuals for design of continuous lighting and safety lighting for all conventional and underpass lighting. Include safety lighting as part of each design on traffic signal. Provide a preliminary layout for initial review and approval by the State. Prepare circuit wiring diagrams showing the number of luminaries on each circuit, electrical conductors, length of runs, service pole assemblies. Underpass lighting shall be used on all structures within each project. Integrate existing illumination within the project limits into the proposed design. Coordinate with the State to determine the location of proposed conventional, and underpass lighting. Obtain existing illumination information and

coordinate temporary illumination into each phase of the project. Construction documents will be prepared for the following areas:

- a. Continuous lighting for US 281 from the interchange to Sta 555+00
- b. Safety lighting for all signalized intersections and ramps on US 281
- c. Underpass lighting for all cross street bridges
- d. Underpass lighting for Direct Connectors as required
- e. Temporary lighting for all temporary signalized intersections and ramps

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Preliminary layout
 - Plan sheets in accordance with the PS&E Stage submittals:
 - Layouts
 - Estimate and quantity sheet
 - General notes and specification data.
 - Plan sheets
 - Notes for plan layout
 - Wiring Diagram sheets
 - Construction detail sheet
 - Prepare governing specifications and special provisions list
 - Summary of Quantities
- 5. Storm Water Pollution Prevention Plans (SW3P).** 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.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- SW3P sheets and details as specified in the PS&E Stage Submittals
- 6. Compute and Tabulate Quantities.** Provide the summaries and quantities within all formal submittals.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Summary and Quantity sheets as specified in the PS&E Stage Submittals

- 7. Miscellaneous Roadway Details.** Provide necessary details required to supplement standard details.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Miscellaneous Roadway Detail sheets as specified in the PS&E Stage Submittals

- 8. Miscellaneous Structural Details.** Provide necessary details required to supplement standard details.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Miscellaneous Structural Detail Sheets as specified in the PS&E Stage Submittals

- 9. Organization of Plan Sheets.** The PS&E shall be complete and organized in accordance with TxDOT Plans, Specifications and Estimate Preparation Manual and as identified by the latest edition of a District's "Guidelines for Milestone Submittals". The PS&E package shall be suitable for the bidding and awarding of a construction contract, and in accordance with the latest State's policies and procedures, and the District's PS&E Checklist.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Index of sheets and package organized per PS&E guidelines and as specified in the PS&E Stage Submittals

- 10. Engineer's Estimate of Probable Construction Cost.** Develop and report quantities necessary to construct contract in standard State bid format at the specified milestones and Final PS&E submittals.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Estimate in State bid format (DCIS) and printed as specified in the PS&E Stage Submittals

11. Invest Gold Certification. Identify previously completed actions eligible for credit and include or develop special specifications needed to meet INVEST Gold certification for the construction of the project. These will include sustainability best practices completed during planning phases and for inclusion in the PS&E. Information related to INVEST certification and criteria can be found on the FHWA website at <https://www.sustainablehighways.org>

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Complete checklist of eligible actions and specifications for INVEST certification

12. Specifications and General Notes. Identify necessary standard specifications, special specifications, special provisions and the appropriate reference items. Prepare General Notes from the District's Master List of General Notes, Special Specifications and Special Provisions for inclusion in the plans and bidding documents.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Special specifications and general notes in printed, Word and electronic .pdf format as specified in the PS&E Stage Submittals

13. Design time determination. Prepare a detailed contract time estimate to determine the approximate time required for design and review of the project in calendar and working days (based on the State standard definitions of calendar and working days) at the 30%, 60%, 90% and 100% Final PS&E milestone. The schedule shall include tasks, subtasks, critical dates, milestones, deliverables, and review requirements in a format which depicts the interdependence of the various items and required review times by the State and the State's GEC. Provide assistance to the State in interpreting the schedule.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Design and review time estimate in printed, Primavera P6 native and electronic .pdf format at the 60%, 90% and 100% Final PS&E milestone.

14. Construction Time Determination.

- a. Prepare a construction time determination using the latest version of Primavera® P6 to show the interdependence of the various items, and adjacent construction packages if applicable. Provide assistance to the State in interpreting the schedule.
- b. Coordinate with the State to develop road user cost for lane rentals and milestones using QuickZone for each of the 3 construction phases

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Construction Time Determination estimate in printed, Primavera P6 native and electronic .pdf format at the 60%, 90% and 100% Final PS&E milestone
- Road user cost for lane rentals and milestones using Quickzone for each of the 3 construction phases.

15. Plans Adequate Project Reviews. Submit plans and design calculations at 30%, 60%, 90%, and 100% complete submittal stages for assessment of completeness for review. Stage submittals will not be accepted until the Plans Adequate review is complete. If, at any time, during the course of reviewing a plans adequate submittal it becomes apparent that the submittal contains errors, omissions, or inconsistencies, the State may cease its review and immediately return the submittal to the Engineer for appropriate action by the Engineer. A submittal returned to the Engineer for this reason is not a submittal for purposes of the submission schedule. The State shall notify the Engineer within three (3) working days of acceptance or rejection as Plans Adequate.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Plans and design calculations at the 60%, 90% and 100% complete submittal stages for assessment of completeness in printed and electronic .pdf format.

16. Plan Reviews.

- a. Once accepted for stage review, submit the required sets of plans at each review stage. The Engineer's back-checked QA/QC documentation of plans is required as part of each submittal. Review all work for compliance with State's latest practices and procedures, policies, standards, specifications

and design criteria prior to submission of deliverables. Be responsible for addressing errors and omissions.

- b. At each submittal stage, after State review and comment, prepare written responses to comments on the comment response form provided by the State within five (5) working days for discussion at the subsequent comment resolution meeting. Comment resolution meetings are intended to resolve any outstanding issues related to comments before the Engineer proceeds to the next stage of plans completion.
- c. At each succeeding submittal, provide in-house review comments with responses and internal QA/QC markups including red-lined plans with 30%, 60%, 90%, and 100% complete deliverables.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Sets of plans at each review stage in printed and electronic .pdf format.
- Written responses to comments on the comment response form in printed and, Excel and .pdf format at each review stage.
- Internal QA/QC markups in printed, Excel (where applicable) and .pdf format at each review stage

17. Progress/Coordination Meetings.

- a. Attend periodic progress meetings with the as required to monitor the development of the project. Attend meetings with the State during progress of the PS&E Package and provide the necessary team members at these meetings, including sub-consultants to assure issues can be addressed and resolved. Meetings include but are not limited to the following:
 - i. Design Kickoff (1 each)
 - ii. Design Concept Conference (1 each)
 - iii. Traffic Control Plan Preliminary District Safety Review Team (DSRT) Concept Review (1 each)
 - iv. Traffic Control Plan DSRT Final Review (1 each)
 - v. Hydraulic Plan Concept Review (1 each)
 - vi. Illumination Plan Concept Review (1 each)
 - vii. Twice monthly Coordination meetings with the State Project Manager (16 each) during design.
 - viii. Plans Adequate Review (1 at each submittal stage)
 - ix. State Review Comment Resolution meetings
 - x. Plans Adequate Review Comment Resolution (4 each – 30%, 60%, 90%, 100%)

- xi. Traffic Control Plan Review Comment Resolution (2 each – concept and DSRT final review)
 - xii. 30% Comment Resolution (1 each)
 - xiii. 60% Comment Resolution (1 each)
 - xiv. 90% Comment Resolution (1 each)
 - xv. 100% Comment Resolution (1 each)
 - xvi. Pre-Construction/Partnering Meeting (1 each)
- b. Prepare meeting minutes and submit to the State Project Manager for review via e-mail within five (5) working days of the meeting.

Deliverables:

The Engineer shall provide to the State the following deliverables for the appropriate assigned task:

- Meeting minutes in electronic Word® and .pdf format within five (5) working days of meetings.

Description of PS&E Stage Submittals:

The following is a description of the deliverables for the appropriate PS&E Stage Submittals:

- Plans Adequate Review
 - Two (2) sets printed plan sheets and electronic .pdf format for determination of adequacy for review at each stage submittal (30%, 60%, 90% and 100% final).
- 30% Plans Submittal
 - Eight (8) sets printed plan sheets (11"x17") and electronic .pdf plan sheets for the State Review. Includes:
 - Roadway plans
 - Preliminary Bridge and Retaining Wall Layouts (including bore logs, stability calculations and scour) in electronic .pdf format for
 - Preliminary Drainage analysis and Hydraulic Plan Concept in printed and electronic .pdf format.
 - Pavement Design Report in printed and electronic Word® and .pdf format.
 - One (1) set of a printed roll format and electronic .pdf format for Concept Illumination plans
 - One (1) set of a printed roll format and electronic .pdf format for TCP phasing layouts, TCP concept, and significant project procedures form (State Form 2229) to present at the DSRT for the State review.
 - Estimate of construction cost in DCIS compatible and electronic .pdf format.

- Form 1002 and Design Exceptions with existing and proposed typical sections, location map and design exception exhibits in Word and electronic .pdf format.
- District Design Review Team (DDRT) Checklist in electronic .pdf format.
- 60% Plans Submittal:
 - Responses to comments and resolution from 30% submittal in electronic Excel® and .pdf format, including return of State's redlines from previous submittal.
 - Eight (8) sets printed plan sheets (11"x17") and electronic .pdf plan sheets for the State Review in accordance with the DDRT checklist.
 - Updated estimate of construction cost in DCIS compatible and electronic .pdf format.
 - One (1) set of a printed roll format and electronic .pdf format for TCP final phasing layouts, final TCP concept, and significant project procedures form (State Form 2229) to present at the DSRT for the State review.
 - DDRT Checklist in printed and electronic .pdf format
- 90% Plans Submittal
 - Responses to comments and resolution from 60% submittal in electronic Excel® and .pdf format, including return of State's redlines from previous submittal.
 - Eight (8) sets printed plan sheets (11"x17") and electronic .pdf plan sheets for the State Review in accordance with the DDRT checklist.
 - List of governing Specifications and Special Provisions in addition to those required in printed electronic .pdf format.
 - Recommended general notes in electronic Word® and .pdf format.
 - Final construction cost estimate in printed and electronic DCIS compatible format.
 - New Special Specifications and Special Provisions with Form 1814, if applicable in electronic Word® and .pdf format.
 - Triple Zero Special Provisions in electronic Word® and .pdf format.
 - Engineer sign, seal and date supplemental sheets (8 ½" x 11") in printed and electronic Word® and .pdf format.
 - Contract time determination summary in Primavera P6 electronic and .PDF format.
 - Significant project procedures form in printed and electronic Word® and .pdf format.
 - Right-of-Way and utilities certification in printed and electronic Word® and .pdf format.
 - Temporary road closure letters in printed and electronic Word® and .pdf format.

- Construction speed zone request in printed and electronic Word® and .pdf format.
- Other supporting documents in printed and electronic Word® and .pdf format.
- Final submittal (100%).
 - Responses to comments and resolution from 90% submittal in electronic Excel® and .pdf format.
 - One (1) original signed/sealed set (11" x 17") and Ten (10) sets printed plan sheets (11"x17") and electronic .pdf plan sheets for the State Review in accordance with the DDRT checklist.
 - ePS&E portfolio
 - Revised supporting documents from 90% review comments.

G. Advanced Traffic Signal System (ATSS)

1. Concept Exploration

In this first step of the ATSS development, Engineer shall initiate the systems engineering process to perform a high-level feasibility assessment of a project ATSS and gauge the potential of its application. This will be accomplished by conducting one, two-hour informational/brainstorming session with State. During this session Engineer shall provide general ATSS information, including benefits, and present a high-level concept of an ATSS for the project. Consensus will be reached with which ATSS's to focus on moving forward. The session will also focus on preliminary identification of key corridors, boundaries, and the corresponding agencies that will be required to guide further development. The Engineer shall prepare invites, agendas, a powerpoint, meeting handouts, and a meeting summary. Engineer shall also coordinate meeting location selection and logistics to facilitate the meeting. This task includes one prep meeting and one follow up meeting with the State.

Deliverables:

- ATSS Concept Exploration Informational/Brainstorming Session
- Brief one page ATSS Concept Technical Memorandum that identifies the needs of the State

2. Integrated Corridor Management Systems Engineering Management

In this task and as required of the systems engineering process, Engineer shall develop a project Integrated Corridor Management (ICM) Systems Engineering Management/Work Plan. This task will clearly delineate the remaining tasks for

ATSS development and clarify specific ICM roles and responsibilities. This task will also include all meetings relating to ATSS development, schedule preparation and maintenance, and provisions/mechanisms for close coordination with ongoing project activities and milestones.

Deliverables:

- 4 meetings, scheduling, summaries
- ATSS Detailed Work Plan
- ATSS Schedule

3. ATSS Concept of Operations

In this task, The Engineer shall prepare a Concept of Operations (ConOps) for the project ATSS. The ATSS ConOps will document the results and findings from the "system conception" stage where the needs were identified, laying out the ATSS concept, explaining how things are expected to work once it is in operation, and identifying the responsibilities of the various stakeholders for making this happen. A high-level outline for the ConOps will include:

- Inventory Existing Systems / Data Collection Needs
- Justification for changes
- Identify Current Corridor Conditions, Problems, and Needs
- Corridor Vision and Goals
- Potential ICM Approaches and Strategies
- Corridor Boundaries
- Performance Measures and Metrics
- System Concept
- Integration/Alignment with the Regional Intelligent Transportation System (ITS) Architecture
- Interface/Integration with other Systems
- Operational Scenarios
- Implementation Issues (Operational, Technical, and Institutional)

By definition, a Con Ops does not delve into technology or detailed requirements of the ATSS, but shall address the operational scenarios and objectives, information needs, and overall functionality. The ATSS Con Ops shall also address the institutional environment in which integrated corridor management must be deployed, operated, and maintained.

Deliverable:

- Draft/Final ATSS Concept of Operations

4. Requirements Definition

Following the development of the ICM Con Ops, the next step of the systems engineering process is defining system requirements. Requirements are a foundation to building the ATSS, drive system development, and are also used to determine (i.e., verify) if the ATSS has been built and installed correctly. In this task, The Engineer shall prepare a technical memorandum documenting ICM system requirements and will include statements of the technology-independent capabilities that the ATSS must have (i.e. "functions"), geared to addressing the needs and objectives as defined by the corridor stakeholders and their respective organizations. Two-levels of requirements will be developed for the project's ATSS system:

- System requirements: These focus on ATSS functions as a whole (i.e., system level).
- Detailed requirements: Each system level requirement is decomposed into a more refined set of requirements allocated to individual network systems and sub-systems.

In order to reach stakeholder consensus on system requirements, The Engineer shall facilitate up to three iterations of defining, reviewing, and refining.

Deliverables:

- Three iterations of Project ICM requirements development
- Draft/Final Project ICM Requirements Technical Memorandum

5. ATSS High-Level Topology and Architecture Design

The design phase of the ATSS development effort defines the details of how the detailed requirements will be satisfied. The FHWA course on systems engineering defines system design as the "appropriate selection of system components and their interconnection so as to meet the system requirements." The high-level topology and architecture design includes the development of alternative architectures and their evaluation in terms of functionality (i.e., the ability to provide the selected ICM operational strategies and satisfy the ATSS requirements), performance, cost, and other issues (technical and institutional). Both internal and external interfaces, including the existing network-based ITS systems that will be integrated into the ATSS (i.e., a "system of systems"), and needed industry standards are identified during this step.

In this task, The Engineer shall perform a high-level design for the Project's ATSS, including:

- Decompose requirements into alternative architectures

- Identify and define system interfaces, interconnects, information flows, and overall communication topology;
- Evaluate/select ATSS Standards;
- Develop ICM System Architecture consistent with Regional ITS Architecture;
- Prepare high-level design block diagram(s);
- Resolve remaining institutional issues (e.g. organizational structure, funding, stakeholder responsibilities, etc.)

Deliverable:

- Draft/Final High-Level Design Report Document

6. ATSS (Component-Level) Detailed Design

In this task, the The Engineer shall decompose each system and sub-system described in the assumptions into components of hardware, software, database elements, firmware, and /or processes. Component designs then describe in great detail how each component will be developed to meet the required functions of the system, resulting in "build to" plans, specifications and estimates (PS&E) that will be used to build or procure the individual components. For hardware components, this step will describe the components and the associated technology in enough detail to be fabricated or purchased. For software, enough detail will be given such that developers can design and then write the individual software modules. If commercial-off-the-shelf equipment is being used, this step is where the alternative candidate products are evaluated and a selection made.

Deliverables:

- Final PS&E plan sheets
- Detailed System and Software Design Document

7. Procurement

Whereas the detailed design task described previously focuses on how the ATSS will be built from a technical perspective, in this task, the Engineer shall define how the ATSS will be built from an institutional and procedural perspective. Specific activities in this task include addressing:

- Project definition, sequencing/scheduling, and funding/budgeting
- Central hardware procurement

- Software requirements, including new ATSS software programs and/or enhancements to existing FTMS network-specific software and firmware
- System integration
- Testing and acceptance requirements
- Training requirements and documentation
- Warranties and on-going system support
- Contracting for Freeway Service Teams
- Interagency agreements

Deliverable:

- Draft/Final ATSS Procurement Technical Memorandum

8. Operations Plan

The Engineer shall prepare a draft and final operations plan for the ATSS. This plan will be developed for all system stakeholders and will include the following:

- Emergency response, operations, and maintenance roles and responsibilities
- ATSS functions and corresponding processes, systems, and subsystems to support functions
- Operational procedures
- Contact information

Deliverables:

- Draft/final ATSS Operations Plan

9. ATSS-related Meetings

The Engineer shall participate (two members) in up to 8 two-hour ATSS-related meetings. This task includes the meetings which are needed to coordinate the work from the requirements definition through final design and the creating of the operations plan.

H. Bridge Design

1. Bridge Layouts.

- a. Bridges listed are those shown on the current approved schematic and represent the anticipated required Bridge structures with some length adjustments as noted below:
 - i. LP 1604/US 281 direct connectors
 - ii. NB and SB bridges at Redland Rd (370+50 to 373+90)

- iii. SB braided ramp to Redland Rd
 - iv. NB and SB bridges at Encino Rio (407+50 to 410+90)
 - v. NB and SB bridges at Evans Rd (432+80 to 436+20)
 - vi. VIA Park and Ride "T" bridge to ROW
 - vii. US281 HOV bridge
 - viii. NB and SB bridges at Stone Oak/TCP Pkwy (479+80 to 483+00)
 - ix. Bridge at Marshall Rd (524+30 to 528+00)
- b. Determine the location of each soil boring needed for foundation design in accordance with the Geotechnical Manual.
 - c. Prior to preparation of each bridge layout, prepare a comparative cost analysis of bridge structures to determine: (1) the optimum bridge beams for vertical clearance over roadway, or waterways, (2) the optimum bridge structure versus roadway embankment, pavement, soil stabilization, and retaining walls , and (3) the optimum bridge beams for the direct connectors.
 - d. All aesthetics shall be designed per the San Antonio District Urban Design Themes guidelines – Hill Country Region
 - e. All Bridge design shall be coordinated through the District Design Project Manager and the San Antonio District's Bridge Section. Review existing "As Built" plans for the bridges.
 - f. Submit preliminary bridge layouts to the State for approval at 30% PS&E Stage submittal.
 - g. Submit final bridge layouts to the State for approval at 60% PS&E Stage submittal.
 - h. Comply with all relevant sections of the October 2015 edition of the State's LRFD Bridge Design Guide, Bridge Project Development Manual, Bridge Detailing Manual, and AASHTO LRFD Bridge Design Specifications 7th Edition and respective checklists. Each bridge layout sheet shall include bridge typical sections, structural dimensions, abutment and bent locations, superstructure and substructure types. Locate and plot all soil borings (including groundwater information) and utilities, show proposed retaining walls, and, for staged construction, indicate limits of existing bridge for removal and reconstruction.

Deliverables:

- Bridge Layouts in accordance with the PS&E stage submittals.

- 2. Bridge Quantities, Estimates and Specifications.** Prepare bridge quantities, estimates and specifications in accordance to the above-listed manuals and guides.

Deliverables:

- Bridge quantities, estimates and specifications in accordance with the PS&E stage submittals.

3. **Bridge Structural Details.** Prepare each structural design and develop detailed structural drawings of all required details in compliance with above-listed manuals.

Deliverables:

- Bridge structural details in accordance with the PS&E stage submittals.

4. **Additional Bridge Details and Requirements:**

- a. Perform calculations for design of bridge abutments in accordance with TxDOT LRFD Bridge Design Guide.
- b. Perform calculations for bridge slab design in accordance with TxDOT LRFD Bridge Design Guide.
- c. Perform calculations to determine elevations of bridge substructure and super structure elements.
- d. Perform calculations for bridge beam design.
- e. Prepare necessary foundation details and plan sheets.
- f. Prepare plan sheets for abutment design.
- g. Prepare beam framing plan and slab plan sheets.
- h. Compute and prepare tables for slab and bearing seat elevations, dead load deflections, etc.
- i. Design beams and prepare beam design tables.
- j. Prepare Bridge Summary Sheet
- k. Prepare Aesthetic Details for Bridge elements.

Deliverables:

- Additional bridge structural details in accordance with the PS&E stage submittals. Calculations delivered at 100% submittal stage only.

5. **Overhead Sign Bridges.** Prepare each structural design and develop detailed structural drawings of required details in accordance with the State's design manuals.

Deliverables:

- Overhead sign bridge structural details in accordance with the PS&E stage submittals.

- 6. Detention Ponds.** Prepare structural design and develop details for concrete detention ponds

Deliverables:

- Detention pond structural details in accordance with the PS&E stage submittals.

FUNCTION CODE 300 – DESIGN VERIFICATION, CHANGES AND ALTERATIONS

A. Construction Phase Services

1. Responses to Requests

- a. Provide Construction Phase Services at the written request of the State's project manager. The written request shall include a description of the work requested, a mutually agreed upon time limit, and any special instructions for coordination and submittal. These services shall include, but are not limited to the following:
- i. Review and approval of shop drawings
 - ii. Review and approval of forming details
 - iii. Review and approval of temporary shoring submittals
 - iv. Responding to requests for information (RFIs)
 - v. Answering general questions
 - vi. Providing clarification
 - vii. Assist the State in preparing change orders to the project plans where warranted by a change in field conditions or a change requested by the State.
 - viii. Other project related tasks in support of the State during construction

Deliverables:

- Documentation of responses to construction phase requests.

B. Construction Phase Public Involvement Support

- a. Support the State with ground breaking activities including: securing a locations, site preparation, developing and releasing invitations, developing media kits
- b. Assist with complaint resolution and responses.
- c. Host the Project website and provide updates for activities completed, look ahead, lane closures extending more than daylight hours, weekend lane closures, ramp closures and prior to shifts in traffic patterns.
- d. Provide public notices for TxDOT release related to traffic shifts.

Deliverables:

- Documentation of construction phase support activities.

ATTACHMENT D
WORK AUTHORIZATION
D-1
WORK AUTHORIZATION NO. _____
CONTRACT FOR ENGINEERING SERVICES

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 5 of Engineering Contract No. _____ (the Contract) entered into by and between the State of Texas, acting by and through the Texas Department of Transportation (the State), and _____ (the Engineer).

PART I. The Engineer will perform engineering services generally described as _____ in accordance with the project description attached hereto and made a part of this Work Authorization. The responsibilities of the State and the Engineer as well as the work schedule are further detailed in exhibits A, B and C which are attached hereto and made a part of the Work Authorization.

PART II. The maximum amount payable under this Work Authorization is \$ _____ and the method of payment is _____ as set forth in Attachment E of the Contract. This amount is based upon fees set forth in Attachment E, Fee Schedule, of the Contract and the Engineer's estimated Work Authorization costs included in Exhibit D, Fee Schedule, which is attached and made a part of this Work Authorization.

PART III. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with Articles 3 thru 5 of the contract, and Attachment A, Article 1.

PART IV. This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate on _____, unless extended by a supplemental Work Authorization as provided in Attachment A, Article 1.

PART V. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

IN WITNESS WHEREOF, this Work Authorization is executed in duplicate counterparts and hereby accepted and acknowledged below.

THE ENGINEER

THE STATE OF TEXAS

(Signature)

(Printed Name)

(Title)

(Date)

(Signature)

(Printed Name)

(Title)

(Date)

LIST OF EXHIBITS

- Exhibit A Services to be provided by the State
- Exhibit B Services to be provided by the Engineer
- Exhibit C Work Schedule
- Exhibit D Fee Schedule/Budget
- Exhibit H-2 Subprovider Monitoring System Commitment Agreement

ATTACHMENT D
D-2
SUPPLEMENTAL WORK AUTHORIZATION NO. _____
WORK AUTHORIZATION NO. _____
CONTRACT FOR ENGINEERING SERVICES

THIS SUPPLEMENTAL WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 5 Contract No. _____ hereinafter identified as the "Contract," entered into by and between the State of Texas, acting by and through the Texas Department of Transportation (the State), and _____ (the Engineer).

The following terms and conditions of Work Authorization No. _____ are hereby amended as follows:

This Supplemental Work Authorization shall become effective on the date of final execution of the parties hereto. All other terms and conditions of Work Authorization No. _____ not hereby amended are to remain in full force and effect.

IN WITNESS WHEREOF, this Supplemental Work Authorization is executed in duplicate counterparts and hereby accepted and acknowledged below.

THE ENGINEER

THE STATE OF TEXAS

(Signature)

(Printed Name)

(Title)

(Date)

(Signature)

(Printed Name)

(Title)

(Date)

ATTACHMENT E
FEE SCHEDULE
(Final Cost Proposal)

This attachment provides the basis of payment and fee schedule. **The basis of payment for this contract is indicated by an “X” in the applicable box.** The basis shall be supported by the Final Cost Proposal (FCP) shown below. If more than one basis of payment is used, each one must be supported by a separate FCP.

“X”	Basis	
<u> X </u>	Lump Sum	The lump sum shall be equal to the maximum amount payable. The lump sum includes all direct and indirect costs and fixed fee. The Engineer shall be paid pro rata based on the percentage of work completed. For payment the Engineer is not required to provide evidence of actual hours worked, travel, overhead rates or other evidence of cost.
<u> X </u>	Unit Cost	The unit cost(s) for each type of unit and number of units are shown in the FCP. The unit cost includes all direct and indirect costs and fixed fee. The Engineer shall be paid based on the type and number of units fully completed and the respective unit cost. For payment, the Engineer is not required to provide evidence of actual hours worked, travel, overhead rates or any other cost data. The FCP may include special items, such as equipment which are not included in the unit costs. Documentation of these special costs may be required. The maximum amount payable equals the total of all units times their respective unit cost plus any special direct items shown.
<u> X </u>	Specified Rate Basis	The specified rates for each type of labor are shown in the FCP below. The FCP may include special items, such as equipment which are not included in the specified rates. Payment shall be based on the actual hours worked multiplied by the specified rate for each type of labor plus other agreed to special direct cost items. The specified rate includes direct labor and indirect cost and fixed fee. The State may request documentation of reimbursable direct costs including hours worked. Documentation of special item costs may be required. The specified rate is not subject to audit.
_____	Cost Plus Fixed Fee	<p>Payment shall be based on direct and indirect costs incurred <u>plus</u> a pro rata share of the fixed fee based on the ratio of <u>labor and overhead cost incurred to total estimated labor and overhead cost in the FCP</u> or the percentage of work completed. The invoice must itemize labor rates, hours worked, other direct costs and indirect costs. The Engineer may be required to provide documentation of hours worked and any eligible direct costs claimed. The provisional overhead rate charged is subject to audit and adjustment to actual rates incurred. The FCP below shows the hourly rates for labor, other direct expenses including but not limited to travel and allowable materials, provisional overhead rate and the fixed fee.</p> <p>___A. Actual Cost Plus Fixed Fee - Actual wages are paid (no minimum, no maximum. This option does not apply to Indefinite Deliverable Contracts.)</p> <p>___B. Range of Cost Plus Fixed Fee – Actual wages <u>must</u> be within the allowable range shown on the Final Cost Proposal.</p>

ATTACHMENT E – FEE SCHEDULE

Final Cost Proposal (FCP) Supporting Basis of Payment

* The **MAXIMUM AMOUNT PAYABLE** is **\$13,977,195.18**.

The maximum amount payable is based on the following data and calculations:

* The maximum amount payable must be based on the contract scope. The work authorization fee schedules will be derived from this attachment.

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
OTHER DIRECT EXPENSES			
RATES SHOWN APPLY TO PRIME PROVIDER AND ALL SUBPROVIDERS			
SERVICES TO BE PROVIDED	UNIT	FIXED COST	MAXIMUM COST
Travel			
Lodging/Hotel (Taxes/fees not included)	day/person		STATE RATE
Lodging/Hotel - Taxes and Fees	Day		\$ 50.00
Meals (overnight stay required)	day/person		STATE RATE
Meals (non-overnight stay)	Day		\$ 36.00
Mileage	mile		STATE RATE
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)	day		\$ 85.00
SUV or ATV Rental (Includes taxes and fees; Insurance costs will not be reimbursed)	day		\$ 150.00
Rental Car Fuel	per gallon		\$ 20.00
Air Travel			
Use with Indefinite Deliverable Contracts	Rd Trip/person		\$ 800.00
Taxi/Cab fare	Each		\$ 50.00
Parking	day		\$ 20.00
Toll Charges	each		\$ 4.00
Shipping/Postage			
Standard Postage	letter	Current Postal	
Certified Letter Return Receipt	each	Current Postal	
Overnight Mail - letter size	each		\$ 56.00
Overnight Mail - oversized box	each		\$ 50.00
Courier Services (Deliveries)	each		\$ 25.00
Copying/Printing/Reproduction/Photo			
Photocopies B/W (8 1/2" X 11")	each	\$ 0.15	
Photocopies B/W (11" X 17")	each	\$ 0.30	
Photocopies Color (8 1/2" X 11")	each		\$ 1.00
Photocopies Color (11" X 17")	each		\$ 2.00
Digital Ortho Plotting	sheet		\$ 1.50
Plots (B/W on Bond)	square foot		\$ 1.00
Plots (Color on Bond)	square foot		\$ 3.00
Plots (Color on Photographic Paper)	square foot		\$ 4.00
Color Graphics on Foam Board	square foot		\$ 25.00
Presentation Boards 30"x40" Color Mounted	each		\$ 170.00
Report Binding	each		\$ 300.00
Notebooks	each		\$ 15.00
Reproduction of CD/DVD	each		\$ 5.00
CDs	each		\$ 1.50
4"x6" Digital Color Print	each		\$ 1.00
Enlargements, Lamination, Mounting	Per Sq FT	\$ 7.00	
Planning/Environmental			
Historical Aerial Images	unit		\$ 250.00
Aerial Photographs (1" = 500' scale)	each		\$ 250.00
Required Permit Fees	each		\$ 1,000.00
Backhoe Rental	day		\$ 1,200.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)	day		\$ 125.00
Environmental Research Fees (eg. TARL)	Per Project		\$ 1,500.00
FEMA FIS Backup Data Request	each		\$ 300.00
FEMA FIS (Manual)	each		\$ 10.00
Map records	sheet		\$ 5.00

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
OTHER DIRECT EXPENSES			
RATES SHOWN APPLY TO PRIME PROVIDER AND ALL SUBPROVIDERS			
SERVICES TO BE PROVIDED	UNIT	FIXED COST	MAXIMUM COST
ManLift Equipment Rental or Bridge Inspection Equipment Rental	Day		\$ 1,875.00
Air Compressor Rental	Day		\$ 325.00
Site Clearance	Day		\$ 3,200.00
Public Involvement			
Newspaper Advertisement	per publication		\$ 5,000.00
Court Reporter	page		\$ 50.00
Court Reporter (Public Hearings & Transcription)	day		\$ 1,000.00
Law Enforcement/Uniform Officer	hour/officer		\$ 50.00
Professional Narrator for Public Involvement	event		\$ 850.00
Translator (English to Spanish) for Public Involvement	event		\$ 850.00
Translator (English to Spanish or Sign Language)	hour		\$ 100.00
Custodian for Public Involvement	hour/custodian		\$ 100.00
Sound Technician for Public Involvement	event		\$ 1,000.00
Public Involvement Facility Rental	event		\$ 3,000.00
Audio - Visual Equipment Rental	event		\$ 1,250.00
Audio - Equipment Rental	each		\$ 750.00
Public Notices - Mass Mailing	per 500		\$ 500.00
Website Registration	Each		\$ 100.00
Website Hosting/Domain Renewal	Per Month		\$ 200.00
Survey			
Certified Deed Copies	sheet		\$ 2.25
Property Record Fees (Courthouse and Courthouse Direct Record Fees)	Per Parcel		\$ 25.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Medium Project (Includes labor, equipment and fuel)	day		\$ 2,400.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Large Project (Includes labor, equipment and fuel)	day		\$ 3,000.00
Type II ROW Monument - Poured 2-3 Feet (Includes One Call, crew time, equipment, materials, rentals, labor.) Brass Marker supplied by the State.	Each		\$ 200.00
<i>Mobile Equipment LiDAR</i>			
LiDAR Mobile Mapping System, (Includes Vehicle Operator, LiDAR Technician Mileage on Project, Fuel, setting control, scanning, post processing and extracting) (Does Not Include travel to project.)	LF		\$ 11.55
Profit not allowed on Other Direct Expenses.			
For Cost Plus Fixed Fee, Specified Rate, and Unit Cost - Unless fixed, actual rates to be billed not to exceed the maximum shown. Documentation such as receipts or usage logs for other direct expenses are necessary for reimbursement, except for meals. For Lump Sum - No documentation required. Invoicing by physical percent complete includes combination of direct labor and other direct expenses.			
NOTE: For Cost Plus Fixed Fee, Specified Rate, and Unit Cost - Miscellaneous other direct expenses up to \$100 per unit will be reimbursed at cost if approved and documented in advance by the State's Project Manager. Miscellaneous other direct expenses of \$100 per unit or more will not be reimbursed unless a supplemental agreement to the contract and work authorization (if WAs are used) has been executed in advance authorizing the miscellaneous other direct expenses. No more than \$2,500 in miscellaneous other direct expenses may be approved by the State's Project Manager over the life of this contract including prime provider and subproviders. For Lump Sum - This statement does not apply.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Principal	20+	\$80.00	\$218.27
Senior Program Manager	30+	\$110.00	\$300.12
Task Manager	10 to 20	\$90.00	\$245.55
Senior Engineer	15+	\$75.00	\$204.63
Project Engineer	10 to 15	\$56.00	\$152.79
Design Engineer	5 to 10	\$43.00	\$117.32
Engineer-In-Training	1 to 5	\$31.00	\$84.58
Senior Engineer Tech	15+	\$37.00	\$100.95
Engineer Tech	5 to 15	\$26.00	\$70.94
Senior CADD Operator	15+	\$35.00	\$95.49
CADD Operator	5 to 15	\$30.00	\$81.85
Admin/Clerical		\$24.00	\$65.48
RPLS - Project Manager	15+	\$44.00	\$120.05
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	\$31.00	\$84.58
Senior Environmental Scientist/Planner	20+	\$60.00	\$163.70
Environmental Specialist/Scientist	5 to 10	\$35.00	\$95.49
Senior Project Controls	5 to 15	\$45.00	\$122.78
INDIRECT COST RATE:	141.45%		
PROFIT RATE:	13.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		Cobb, Fendley, & Associates, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Task Manager	10 to 20	\$74.00	\$216.60
Senior Engineer	15+	\$69.00	\$201.96
Project Engineer	10 to 15	\$39.30	\$115.03
Design Engineer	5 to 10	\$35.75	\$104.64
Engineer-In-Training	1 to 5	\$30.00	\$87.81
Senior Engineer Tech	15+	\$37.00	\$108.30
Engineer Tech	5 to 15	\$27.00	\$79.03
Senior CADD Operator	15+	\$35.00	\$102.44
CADD Operator	5 to 15	\$28.00	\$81.96
Admin/Clerical		\$20.50	\$60.00
RPLS - Project Manager	15+	\$43.00	\$125.86
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	\$31.00	\$90.74
2-man Survey Crew		\$51.00	\$149.28
1-man Survey Crew (includes GPS and Robotic Total Stations, Mileage not included)		\$34.50	\$100.98
Senior Utilities Coordinator		\$45.00	\$131.71
Utilities Coordinator		\$35.00	\$102.44
Flagger		\$13.00	\$38.05
INDIRECT COST RATE:	166.09%		
PROFIT RATE:	10.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE		
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS		
PRIME PROVIDER NAME:		HNTB Corporation
SUB-PROVIDER NAME:		The DeBerry Group
DIRECT LABOR		
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	LOADED RATE
Senior Project Manager	20+	\$230.00
Task Manager	10 to 20	\$215.00
Admin/Clerical		\$50.00
Environmental Scientist/Planner		\$95.00
Senior Environmental Scientist/Planner		\$120.00
Contract rates include labor, overhead, and profit.		
All rates are negotiated rates and are not subject to change or adjustment.		
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.		
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.		
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.		

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		HVJ Associates, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Senior Project Manager	20+	\$75.00	\$228.94
Task Manager	10 to 20	\$70.00	\$213.68
Senior Engineer	15+	\$65.00	\$198.41
Project Engineer	10 to 15	\$42.00	\$128.21
Design Engineer	5 to 10	\$37.00	\$112.94
Engineer-In-Training	1 to 5	\$30.00	\$91.58
Senior Engineer Tech	15+	\$33.00	\$100.73
Engineer Tech	5 to 15	\$23.00	\$70.21
CADD Operator	5 to 15	\$28.12	\$85.84
Admin/Clerical		\$21.00	\$64.10
Senior Geologist	15+	\$35.00	\$106.84
INDIRECT COST RATE:	177.50%		
PROFIT RATE:	10.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		K. Freise & Associates, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Senior Project Manager	20+	\$80.00	\$231.86
Task Manager	10 to 20	\$75.00	\$217.37
Senior Engineer	15+	\$70.00	\$202.88
Project Engineer	10 to 15	\$45.00	\$130.42
Design Engineer	5 to 10	\$36.00	\$104.34
Engineer-In-Training	1 to 5	\$31.00	\$89.85
Senior Engineer Tech	15+	\$36.00	\$104.34
Engineer Tech	5 to 15	\$28.00	\$81.15
Senior CADD Operator	15+	\$33.00	\$95.64
CADD Operator	5 to 15	\$28.00	\$81.15
Admin/Clerical		\$20.50	\$59.41
INDIRECT COST RATE:	163.48%		
PROFIT RATE:	10.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corpoartion	
SUB-PROVIDER NAME:		Keville Enterprises Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Project Controls Manager	15+	\$60.10	\$147.35
Senior Scheduler (20+ years)	20+	\$59.96	\$147.01
Scheduler	10 to 15	\$52.54	\$128.82
INDIRECT COST RATE:	115.07%		
PROFIT RATE:	14.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		Lina T. Ramey and Associates, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Senior Project Manager	20+	\$80.00	\$230.11
Task Manager	10 to 20	\$75.00	\$215.73
Senior Engineer	15+	\$70.00	\$201.34
Project Engineer	10 to 15	\$50.00	\$143.82
Design Engineer	5 to 10	\$36.50	\$104.99
Engineer-In-Training	1 to 5	\$31.50	\$90.60
Senior Engineer Tech	15+	\$36.00	\$103.55
Engineer Tech	5 to 15	\$26.00	\$74.78
Senior CADD Operator	15+	\$33.00	\$94.92
CADD Operator	5 to 15	\$28.00	\$80.54
Admin/Clerical		\$20.00	\$57.53
RPLS - Project Manager	15+	\$44.00	\$126.56
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	\$32.00	\$92.04
2-man Survey Crew		\$50.00	\$143.82
Senior Utility Coordinator	15+	\$54.00	\$155.32
INDIRECT COST RATE:	159.13%		
PROFIT RATE:	11.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		Poznecki-Camarillo, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Senior Project Manager	20+	\$65.00	\$200.15
Task Manager	10 to 20	\$55.00	\$169.36
Senior Engineer	15+	\$48.00	\$147.80
Project Engineer	10 to 15	\$40.00	\$123.17
Design Engineer	5 to 10	\$39.00	\$120.09
Engineer-In-Training	1 to 5	\$30.00	\$92.38
Senior Engineer Tech	15+	\$36.00	\$110.85
Senior CADD Operator	15+	\$31.00	\$95.46
CADD Operator	5 to 15	\$26.00	\$80.06
Admin/Clerical		\$20.00	\$61.58
RPLS - Project Manager	15+	\$41.00	\$126.25
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	\$30.00	\$92.38
Senior Environmental Scientist/Planner		\$46.00	\$141.64
Environmental Specialist/Scientist		\$37.00	\$113.93
2-man Survey Crew		\$42.25	\$130.10
INDIRECT COST RATE:	179.93%		
PROFIT RATE:	10.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract; but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		RODS Surveying, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Task Manager	10 to 20	\$48.00	\$132.45
Senior CADD Operator	15+	\$36.00	\$99.34
CADD Operator	5 to 15	\$30.00	\$82.78
Admin/Clerical		\$20.00	\$55.19
RPLS - Project Manager	15+	\$50.00	\$137.97
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	\$36.00	\$99.34
2-man Survey Crew		\$51.00	\$140.73
Flagger		\$13.00	\$35.87
1-Man Survey Crew		\$35.00	\$96.58
INDIRECT COST RATE:	146.38%		
PROFIT RATE:	12.0%		
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		Sanchez-Salazar & Associates, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Senior Project Manager	20+	\$80.00	\$193.20
Task Manager	10 to 20	\$75.00	\$181.13
Senior Engineer	15+	\$70.00	\$169.05
Project Engineer	10 to 15	\$48.00	\$115.92
Design Engineer	5 to 10	\$43.00	\$103.85
Engineer-In-Training	1 to 5	\$34.00	\$82.11
Senior Engineer Tech	15+	\$36.00	\$86.94
Senior CADD Operator	15+	\$33.00	\$79.70
CADD Operator	5 to 15	\$28.00	\$67.62
Admin/Clerical		\$18.00	\$43.47
INDIRECT COST RATE:		110.00%	
PROFIT RATE:		15.0%	
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
SPECIFIED RATE AND LUMP SUM PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		Structural Engineering Associates, Inc.	
DIRECT LABOR			
LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	LOADED RATE
Senior Engineer	15+	\$70.00	\$201.40
Project Engineer	10 to 15	\$38.00	\$109.33
Engineer-In-Training	1 to 5	\$29.00	\$83.44
Senior CADD Operator	15+	\$33.00	\$94.95
CADD Operator	5 to 15	\$28.00	\$80.56
Structural Engineer	5+	\$54.75	\$157.52
INDIRECT COST RATE:		161.56%	
PROFIT RATE:		10.0%	
Contract rates include labor, overhead, and profit.			
All rates are negotiated rates and are not subject to change or adjustment.			
Specified Rate Payment Basis. - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.			
Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.			
Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.			

ATTACHMENT E - FEE SCHEDULE		
UNIT COST PAYMENT BASIS		
PRIME PROVIDER NAME:		HNTB Corporation
SUB-PROVIDER NAME:		Lina T. Ramey and Associates, Inc.
SERVICES TO BE PROVIDED	UNIT	COST
SUE (Quality Level D) This unit price includes personnel for records research,CADD and mapping D product. Price per linear foot (including all related services)	LF	\$ 0.50
SUE (Quality Level C) This unit price includes personnel for surveying utility surface features associated with underground utilities. Price per linear foot (including all related services)	LF	\$ 0.50
SUE (Quality Level B - Utility) This unit price includes personnel and equipment for designating, engineering, surveying paint marks, CADD and Engineer I EIT	LF	\$ 1.50
SUE (Quality Level A - Utility) These unit prices include personnel and equipment for vacuum excavation, engineering, surveying, CADD, and limited traffic control. These prices reflect that a Quality Level B service has been provided. Price per Test Hole:		
0.00 feet to 3.1 feet	each	\$ 945.00
Over 3.1 feet to 6.00 feet	each	\$ 1,200.00
Over 6.10 feet to 13.00 feet	each	\$ 1,525.00
Over 13.10 feet to 20.00 feet	each	\$ 1,975.00
Level A: > 20 ft.	VF	\$ 200.00
SUE Mobilization/Demobilization These costs are intended to be a one-time expense compensation for mobilizing/demobilizing personnel and equipment portal to portal. Vacuum excavation truck	Mile	\$ 5.00

Note: When the above unit prices are not utilized, the following appropriate rates will apply

SERVICES TO BE PROVIDED	UNIT	COST
Subsurface Utility Engineering (SUE) Field Services		
Interior pipe wall condition, required permits, and traffic control	hour	\$ -
Ground Penetrating Radar (GPR) (equipment only)	hour	\$ 100.00
One (1) Designating Person with equipment	hour	\$ 140.00
Two (2) Designating Person with equipment	hour	\$ 165.00

The unit costs shown include labor, overhead, and profit. Payment based on units completed. No partial payments.

All unit costs are negotiated costs and are not subject to change or adjustment.

Unit Cost Payment Basis: If unit costs by year are included, unit costs billed should correspond to the fiscal or calendar year, if applicable, in which the work was done.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
UNIT COST PAYMENT BASIS			
PRIME PROVIDER NAME:	HNTB Corporation		
SUB-PROVIDER NAME:	HVJ Associates, Inc.		
SERVICES TO BE PROVIDED	TEST CODE	UNIT	COST
Field Services			
Mobilization/ Demobilization (Truck Rig)		mile	\$8.00
Mobilization/ Demobilization (ATV Rig)		mile	\$12.00
Mobilization Charge (No more than one per project regardless the number of drill holes)		per project	\$3,250.00
Falling Weight Deflection (FWD)		per day	\$3,800.00
Drilling, Logging and recovering samples (with Texas Cone Penetrometer Test)			
1. Depth (less than or equal to 60 feet)	TEX-132-E	linear ft	\$38.00
2. Depth (greater than 60 feet)	TEX-132-E	linear ft	\$47.00
Drilling, logging and recovering samples (without Texas Cone Penetrometer Test)			
1. Depth (less than or equal to 60 feet)		linear ft	\$33.00
2. Depth (greater than 60 feet)(Charges apply only for the portion over 60 ft)		linear ft	\$44.00
Standard Penetration Tests	ASTM D1586	test	\$28.00
Rock Coring (Soft Rock-Carbide Bit)		linear ft	\$32.00
Rock Coring (Hard Rock-Diamond Bit)		linear ft	\$38.00
Piezometer Materials & Installation (drilling cost not included)		linear ft	\$30.00
Well Reports		each	\$150.00
Pulling & Plugging Wells		linear ft	\$30.00
ATV Surcharge		linear ft	\$7.00
Texas Cone Penetration	Tex-132-E	each	\$30.00
Casing / Hollow Stem Auger Surcharge		linear ft	\$20.00
Night Drilling Surcharge		night	\$750.00
Pavement Penetration Concrete / AC		each	\$175.00
Coring Machine Rental (if required)		day	\$250.00
Concrete/AC Patch		patch	\$45.00
HQ Rock Coring (Hard Rock-Diamond Bit)		linear ft	\$65.00
4 inch Roller Bit through Hard Rock (No sampling)		linear ft	\$50.00
Video Camera for Boreholes		day	\$325.00
Standby (Delays due to Karst Features, traffic control, water runs, tremie grouting, etc)		hour	\$275.00
Water Meter Application Fee, and Water fees		month	\$1,000.00
Cement Grouting Materials		linear ft	\$7.00
Geotechnical Lab Testing Services			
Unconfined Compression Tests-Soil	ASTM D2166	test	\$65.00
Unconfined Compression Tests-Rock	ASTM D2938	test	\$75.00
Direct Shear (CD), Sand	ASTM D3080	set of 3	\$475.00
Direct Shear (CD), Clay	ASTM D3080	set of 3	\$475.00
One Dimensional Swell, Method A, B	ASTM D4546	test	\$75.00
One Dimensional Swell, Method C	ASTM D4546	test	\$160.00
Surveying and Sampling Soils for Highways (TxPAV or NICET Certified Technician Time)	Tex-100-E	hr	\$66.00
Determining Moisture Content in Soils Materials	Tex-103-E	each	\$18.00
Determining Liquid Limits of Soils	Tex-104-E	each	\$38.00
Determining Plastic Limit of Soils	Tex-105-E	each	\$38.00
Determining the Bar Linear Shrinkage of Soils	Tex-107-E	each	\$60.00
Determining the Specific Gravity of Soils	Tex-108-E	each	\$65.00
Particle Size Analysis of Soils	Tex-110-E	each	\$85.00

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
UNIT COST PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		HVJ Associates, Inc.	
SERVICES TO BE PROVIDED	TEST CODE	UNIT	COST
Determining the Amount of Material in Soils Finer than the 75 m (No. 200) Sieve	Tex-111-E	each	\$65.00
Determination of Moisture Density Relations of Soils and Base	TEX-113-E	test	\$290.00
Standard Proctor Compaction	TEX-114-E	test	\$175.00
Field Method for Determining In-Place Density of Soils and Base Materials	Tex-115-E	hr @	\$63.00
Ball Mill Method for Determining In-Place Density of Soils and Base Materials	Tex-116-E	each	\$250.00
Triaxial Compression for Disturbed Soils and Base Materials	Tex-117-E	each	\$2,350.00
Unconsolidated Undrained Triaxial Compression Test for Undisturbed Soils (UU) or ASTM D2850	TEX-118-E	test	\$65.00
Soil-Cement Testing	Tex-120-E	each	\$275.00
Soil-Lime Testing (4 points)	Tex-121-E	each	\$285.00
Molding, Testing, and Evaluating Bituminous Black Base Materials	Tex-126-E	each	\$2,950.00
Determining Soil pH	Tex-128-E	each	\$60.00
Measuring the Resistivity of Soil Materials	Tex-129-E	each	\$130.00
Slurry Testing	Tex-130-E	each	\$51.00
Consolidated Undrained Triaxial Compression Test for Undisturbed Soils (3 points)	Tex-131-E	each	\$1,425.00
Texas Cone Penetration	Tex-132-E	each	\$30.00
Measuring Thickness of Pavement Layer	Tex-140-E	each	\$20.00
Determining Sulfate Content in Soils-Coloimetric Method	Tex-145-E	each	\$150.00
Determining Sulfate Content in Soils - Colorimetric Method	Tex-145-E	each	\$150.00
Sulphate Test	TEX-145-E, Pt.2	test	\$85.00
Dry Unit Weights	TEX-404-A	test	\$35.00
Consolidation Test (w/ hysteresis loop)		each	\$350.00
Standard Compaction Proctor		each	\$250.00
Modified Compaction Proctor		each	\$290.00
California Bearing Ratio (CBR), Natural Soil		each	\$224.00
CBR with Additive		each	\$340.00
Field CBR		each	\$250.00
Comp. Strength of CSS Sample, Including Molding		each	\$70.00
Maximum & Minimum Density (Sands)		each	\$205.00
Unconfined Compression - Soil		each	\$55.00
Unconfined Compression - Rock		each	\$75.00
Permeability - Constant Head		each	\$250.00
Permeability w/Back Pressure Saturation		each	\$420.00
Hydrometer		each	\$165.00
Organic Content		each	\$75.00
Unconsolidated Undrained (Q-Test) - 3 Point Method		each	\$122.00
Consolidation Test		each	\$445.00
Free Swell Test - Method B (Percent Swell Under Applied Load)		each	\$350.00
Constant Volume Swell Test (Swell Pressure and Percent Swell) - Method C		each	\$190.00
Soil Suction Determination		each	\$100.00
Direct Shear Test (3 Points)		each	\$675.00

ATTACHMENT E- FEE SCHEDULE

ATTACHMENT E- FEE SCHEDULE			
UNIT COST PAYMENT BASIS			
PRIME PROVIDER NAME:		HNTB Corporation	
SUB-PROVIDER NAME:		HVJ Associates, Inc.	
SERVICES TO BE PROVIDED	TEST CODE	UNIT	COST
Pinhole Test		each	\$275.00
Crumb Test		each	\$37.00
Double Hydrometer		each	\$185.00
4 ft by 4ft Well Pad (4 inches thick with flushmount cover)		each	\$650.00
<p>The unit costs shown include labor, overhead, and profit. Payment based on units completed. No partial payments.</p> <p>All unit costs are negotiated costs and are not subject to change or adjustment.</p> <p>Unit Cost Payment Basis: If unit costs by year are included, unit costs billed should correspond to the fiscal or calendar year, if applicable, in which the work was done.</p> <p>Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.</p>			

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB

PROJECT SUMMARY

BASIS SERVICES	HNTB	Cobb	Deberry	Keville	K Friese	HVJ	LTRA	PCI	RODS	SEA	SSA	Total Hours	Total Cost
Task Descriptions													
FUNCTION CODE 102 - FEASIBILITY STUDIES	4,785					2,843					128	7,756	\$ 986,360.50
FUNCTION CODE 120 - SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES	470		544									1,014	\$ 152,329.18
FUNCTION CODE 130 - RIGHT-OF-WAY (ROW) DATA	534	1,280					320		272			2,406	\$ 318,057.68
FUNCTION CODE 145 - MANAGING CONTRACT	3,046	128	68	48	33	123		276		908	122	4,752	\$ 872,523.13
FUNCTION CODE 160 - ROADWAY DESIGN	40,525			292	4,550			3,971	1,074	14,089	8,818	73,319	\$ 8,472,595.48
FUNCTION CODE 300 - DESIGN VERIFICATION, CHANGES AND ALTERATIONS	5,126		442									5,568	\$ 814,772.20
LABOR TOTALS	54,486	1,408	1,054	340	4,583	2,966	320	4,247	1,346	14,997	9,068	94,815	\$ 11,616,638.17
% of total Hours	57.47%	1.48%	1.11%	0.36%	4.83%	3.13%	0.34%	4.48%	1.42%	15.82%	9.56%		

\$ 7,841,355.23
 49.08%

BASIS SERVICES	HNTB	Cobb	Deberry	Keville	K Friese	HVJ	LTRA	PCI	RODS	SEA	SSA	Total Cost
Task Descriptions												
FUNCTION CODE 102 - FEASIBILITY STUDIES	\$ 674,369.35	\$ -	\$ -	\$ -	\$ -	\$ 295,288.75	\$ -	\$ -	\$ -	\$ -	\$ 16,702.40	\$ 986,360.50
FUNCTION CODE 120 - SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES	\$ 59,999.18	\$ -	\$ 92,330.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 152,329.18
FUNCTION CODE 130 - RIGHT-OF-WAY (ROW) DATA	\$ 92,187.08	\$ 141,778.82	\$ -	\$ -	\$ -	\$ -	\$ 55,571.60	\$ -	\$ 28,510.18	\$ -	\$ -	\$ 318,057.68
FUNCTION CODE 145 - MANAGING CONTRACT	\$ 597,611.68	\$ 19,466.64	\$ 10,840.00	\$ 6,183.36	\$ 5,754.43	\$ 18,272.88	\$ -	\$ 42,160.76	\$ -	\$ 154,927.20	\$ 17,306.18	\$ 872,523.13
FUNCTION CODE 160 - ROADWAY DESIGN	\$ 4,783,691.29	\$ -	\$ -	\$ 38,197.52	\$ 559,187.93	\$ -	\$ -	\$ 423,809.71	\$ 124,653.37	\$ 1,715,616.12	\$ 827,439.54	\$ 8,472,595.48
FUNCTION CODE 300 - DESIGN VERIFICATION, CHANGES AND ALTERATIONS	\$ 739,782.20	\$ -	\$ 74,990.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 814,772.20
LABOR TOTALS	\$ 6,947,650.78	\$ 161,245.46	\$ 178,160.00	\$ 44,380.88	\$ 564,942.36	\$ 313,561.63	\$ 55,571.60	\$ 465,970.47	\$ 153,163.55	\$ 1,870,543.32	\$ 861,448.12	\$ 11,616,638.17
SUE UNIT COST ITEMS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 161,950.00	\$ -	\$ -	\$ -	\$ -	\$ 161,950.00
UNIT COST ITEMS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 774,075.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 774,075.00
OTHER DIRECT EXPENSES	\$ 893,704.45	\$ 3,511.20	\$ 18,882.56	\$ 3,276.00	\$ 4,336.00	\$ 444,141.00	\$ 15,065.00	\$ 748.00	\$ 35,972.00	\$ 3,290.00	\$ 1,605.80	\$ 1,424,532.01
PROJECT TOTAL	\$ 7,841,355.23	\$ 164,756.66	\$ 197,042.56	\$ 47,656.88	\$ 569,278.36	\$ 1,531,777.63	\$ 232,586.60	\$ 466,718.47	\$ 189,135.55	\$ 1,873,833.32	\$ 863,053.92	\$ 13,977,195.18
	56.10%	1.18%	1.41%	0.34%	4.07%	10.96%	1.66%	3.34%	1.35%	13.41%	6.17%	

Was Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Pkwy																					
CSI: 0253-04-146																					
County: Bexar																					
Prime Provider: HNTB																					
BASIS SERVICES		\$ 218.77	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78	Total Hours	Total Cost	
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin/ Clerical	PRS - Project Manager	Senior Environmental Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls			
FUNCTION CODE 102 - FEASIBILITY STUDIES		0	18	69	514	1858	1894	118	288	0	0	0	26	0	0	0	0	0	4785	\$ 674,369.35	
FUNCTION CODE 120 - SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES		0	19	17	0	24	40	142	0	0	60	0	128	32	0	0	0	0	470	\$ 59,999.18	
FUNCTION CODE 130 - RIGHT-OF-WAY (ROW) DATA		0	58	78	84	198	0	0	0	0	20	0	96	0	0	0	0	0	534	\$ 92,197.08	
FUNCTION CODE 145 - MANAGING CONTRACT		0	825	497	288	503	0	0	80	0	0	0	354	0	0	0	0	0	488	\$ 3046	\$ 597,611.68
FUNCTION CODE 160 - ROADWAY DESIGN		0	163	1407	3413	5147	8006	5344	4400	6620	4543	944	220	120	0	0	0	0	42574	\$ 4,783,691.29	
FUNCTION CODE 300 - DESIGN VERIFICATION, CHANGES AND ALTERATIONS		0	84	432	480	1252	2480	0	0	0	0	0	378	0	0	20	0	0	5176	\$ 739,782.20	
LABOR TOTALS		0	1356	2497	4795	8955	12404	5502	4910	6620	4563	1004	1084	120	148	32	0	488	54868	\$ 6,947,650.78	
SUE UNIT COST ITEMS																				\$ -	
UNIT COST ITEMS																				\$ -	
OTHER DIRECT EXPENSES																				\$ 893,704.45	
PROJECT TOTAL		\$ 1,746.16	\$ 406,982.72	\$ 613,138.35	\$ 981,200.85	\$ 1,368,234.45	\$ 1,455,237.28	\$ 485,359.16	\$ 495,664.50	\$ 489,622.80	\$ 435,720.87	\$ 82,177.40	\$ 70,980.32	\$ 14,406.00	\$ 24,227.60	\$ 3,055.68	\$ -	\$ 59,916.64		\$ 7,841,355.23	
% of total Hours		0.01%	2.49%	4.58%	8.80%	16.44%	22.77%	10.10%	9.01%	12.15%	8.37%	1.84%	1.99%	0.22%	0.27%	0.06%	0.00%	0.90%			

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSI: 0253-04-146
 County: Bexar
 Prime Provider: HNTB

BASIS SERVICES		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78			
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD-Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Environmental Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls	Total Hours	Total Cost	
102.B.5	5. Bridges and Overhead Sign Bridges																				
102.B.5.a	a. Perform all geotechnical investigation and testing.																			0	
102.B.5.b	b. Review all existing data before determining new data requirements.					40	40													80	\$ 10,804.40
102.B.5.1	1. Provide a signed and sealed Engineering report.				180	520	720		80											1500	\$ 208,830.60
102.B.6	6. Retaining Walls and Sound Walls																				
102.B.6.a	a. Perform all geotechnical investigation and testing.																			0	
102.B.6.b	b. Obtain soil borings for retaining walls.																			0	
102.B.6.c	c. Conduct Texas Cone Penetrometer (TCP) tests.																			0	
102.B.6.d	d. Install of piezometers as needed.																			0	
102.B.6.e	e. Backfill the open boreholes with soil cuttings.																			0	
102.B.6.f	f. Perform retaining wall analyses.					110	280	480												870	\$ 121,604.10
102.B.6.g	g. Develop a signed and sealed written Engineering report.					50	220	220	80											570	\$ 77,731.70
Totals		0	18	69	514	1858	1894	1118	288	0	0	0	26	0	0	0	0	0	0	4785	\$ 674,369.35

WAs Used
 Contract No: 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy																				
CSI: 0253-04-146																				
County: Bexar																				
Prime Provider: HNTB																				
BASIS SERVICES		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78		
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Environmental Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls	Total Hours	Total Cost
120	FUNCTION CODE 120 – SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES																			
	A. Informal Meetings. Provide technical assistance, preparation of exhibits and minutes for up to 20 formal and informal meetings		2	6					48				60		48				164	\$ 19,687.74
	B. Environmental Permits Issues and Commitments (EPIC) Sheets. Complete the latest version of the EPIC sheets. (Coordination)			1	1										16				18	\$ 3,069.38
	C. Environmental Study Review. Review and implement commitments into the PS&E package		1	2											24	32			59	\$ 7,775.70
	D. Environmental Exhibits. Prepare up to (2) two exhibits for environmental study for any areas outside the original limits of the environmental document.		2	4					94										100	\$ 11,071.74
	E. Cut and Fill Exhibits. Prepare cut and fill exhibits for delineated wetlands.		1	2			24	40											67	\$ 6,990.10
	F. Noise Workshop. Conduct one noise workshop with affected property owners.		2	4	16										40				62	\$ 11,404.52
	Totals	0	8	19	17	0	24	40	142	0	0	60	0	0	128	32	0	0	470	\$ 59,999.18

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Pkwy CSI: 0253-04-146 County: Bexar Prime Provider: HNTB		BASIS SERVICES																Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item		
		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58					\$ 122.78	
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin/ Clerical	RPLS - Project Manager	Senior Environmental Scientist / planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item	
130	FUNCTION CODE 130 - RIGHT-OF-WAY (ROW) DATA																						
130 A	A. ROW: Assume support efforts for max. of 2 parcels																						
130 A.1	1. ROW Acquisition.																						
130 A.1.a	a. Provide fact witness testimony for condemnation proceedings		20	8								20								48	\$ 9,876.60		
130 A.1.b	b. Develop and maintain system to track the status of individual parcels and utility conflicts.		2	4		32								40						78	\$ 9,090.92		
130 B	B. Utility Coordination, Investigation, and Engineering Services																						
130 B.1	1. Utility Engineering Investigation (Subsurface Utility Engineering) for utilities not included under existing SUE Investigations or needing additional information																						
130 B.1.c.ii	ii. Coordinate with utility owners.		2	4	16	16														38	\$ 7,301.16		
130 B.1.c.iii	iii. Designate, record and mark the horizontal location of the existing utility facilities.																						
130 B.1.c.iv	iv. Correlate utility owner records with designating data and resolve discrepancies																						
130 B.1.c.v	v. Determine approximate utility depths at critical locations.																						
130 B.1.c.vi	vi. Provide a monthly summary of work completed and in process with adequate detail to verify compliance with agreed work schedule																						
130 B.1.c.vii	vii. Prepare close-out permits as required.																						
130 B.1.c.viii	viii. Clearly identify all utilities that were discovered.																						
130 B.1.c.ix	ix. Comply with all applicable STATE policy and procedural manuals.																						
130 B.1.d	d. Quality Level A - Locate (Test Holes) (assume up to 60 holes)																						
130 B.1.d.i	i. Review requested test hole locations.																						
130 B.1.d.ii	ii. Coordinate with utility owner inspectors		2	4	16	16														38	\$ 7,301.16		
130 B.1.d.iii	iii. Remove existing pavement material for testing																						
130 B.1.d.iv	iv. Measure and record data																						
130 B.1.d.v	v. Excavate test holes																						
130 B.1.d.vi	vi. Repair damage caused to the utility during the locating process.																						
130 B.1.d.vii	vii. Back fill all excavations with appropriate material																						
130 B.1.d.viii	viii. Furnish and install a permanent above ground markers																						
130 B.1.d.ix	ix. Provide complete restoration of work site and landscape.																						
130 B.1.d.x	x. Provide Microstation files and signed, sealed utility layouts																						
130 B.1.d.xi	xi. Submit data and review findings with the STATE.																						
130 B.1.d.xii	xii. Prepare Close-out permits as required																						
130 B.2	2. Utility Adjustment Coordination																						
130 B.2.a	a. Perform utility coordination with involved utility owners.		2	4	16	16														38	\$ 7,301.16		
130 B.2.b	b. Coordinate with the STATE																						
130 B.2.b.i	i. Work Plan. Coordinate a work plan including a list of the proposed meetings and coordination activities.		2	3		16							24							45	\$ 5,353.05		
130 B.2.b.ii	ii. Orientation. Prepare and present, in collaboration with STATE staff, instruction and orientation sessions as required by the STATE's Project Manager.			8																8	\$ 1,964.40		
130 B.2.b.iii	iii. Initial Project Meeting. Attend an initial meeting and an on-site inspection		3	3		3														9	\$ 2,095.38		
130 B.2.b.iv	iv. External Communications. Coordinate all activities.																						
130 B.2.b.v	v. Permits and rights of entry. Obtain all necessary permits and rights of entry																						
130 B.2.c	c. Determine which utilities conflict with highway construction																						
130 B.2.c.i	i. Prepare Utility Agreement Assemblies																					10	0.0
130 B.2.c.ii	ii. Prepare Utility Agreements																					10	0.0
130 B.2.c.iii	iii. Prepare Utility Acknowledgements																					10	0.0
130 B.2.c.iv	iv. Prepare Escrow Agreements																					10	0.0
130 B.2.c.v	v. Submit Utility Agreement assemblies																						
130 B.2.c.vi	vi. Recommend which utilities shall be installed by "ROW-U-JUAB", or by "Agreement".																						
130 B.3	3. Utility Engineering																						
130 B.3.a	a. Coordinate engineering activities:																						
130 B.3.a.i	i. Prepare Utility Layouts																					10	0.0
130 B.3.b	b. Conduct Public & Individual Meetings with Utility Companies																						
130 B.3.b.i	i. Establish Contact with all existing utilities																						
130 B.3.b.ii	ii. Schedule all utility coordination meetings		2	4	16															22	\$ 4,856.52		
130 B.3.b.iii	iii. Set agenda for all coordination meetings																						
130 B.3.b.iv	iv. Establish methodologies for utility construction																						

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy																			Total Hours	Total Cost	
CSI: 0253-04-146																					
County: Bexar																					
Prime Provider: HNTB																					
BASIS SERVICES		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78			
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS / Project Manager	Senior Environmental Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls			
145	FUNCTION CODE 145 – MANAGING CONTRACT																			0	
145.A	A. Program Management and Administration																			0	
145.A.1	1. Leadership and Management Team:																			0	
145.A.1.a	a. Submit a list of proposed personnel for each assignment:		8	12										4						24	\$ 5,609.48
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM) (24)		48	96		48														192	\$ 45,312.48
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)		32	64	128	128								20					48	420	\$ 78,271.84
145.A.1.d	d. Progress Reports and Invoicing			24	24									20					60	128	\$ 21,772.48
145.A.1.e	e. Overall Project Management, Subconsultant management, internal contract administration, communications, correspondence and quality processes.	8	650	120	160	180														1118	\$ 286,533.16
145.A.2	2. Electronic Network: Establish, and maintain an electronic web-based electronic document control network.		4	24		32			80				140						100	380	\$ 41,504.16
145.A.3	3. Communication : Support communication to strengthen relationships and project delivery																			0	
145.A.3.a	a. FHWA or other federal agency representatives		4	12		24														40	\$ 7,814.04
145.A.3.b	b. STATE's personnel and senior management		4	12		24														40	\$ 7,814.04
145.A.3.c	c. STATE Division personnel and staff		4	12		24														40	\$ 7,814.04
145.A.3.d	d. ROW Acquisition Provider (ROWAP) teams		4	8		8														20	\$ 4,387.20
145.A.3.e	e. Utility Companies		4	8		8														20	\$ 4,387.20
145.A.3.f	f. Third Party Agencies		4	12		24														40	\$ 7,814.04
145.A.4	4. Meeting Records: Document all meetings		4	24									100						100	228	\$ 25,919.68
145.A.5	5. Contract Management: Prepare and fully execute contracts with their sub-consultants		24	48										20					60	152	\$ 27,665.68
145.A.6	6. Schedule: Develop and maintain a detailed project schedule.		8	16										60					120	204	\$ 24,992.16
	Totals	8	826	492	288	500	0	0	80	0	0	0	0	364	0	0	0	0	488	3046	\$ 597,611.68

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSI: 0253-04 146 County: Bexar Prime Provider: HNTB		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.20	\$ 95.49	\$ 84.58	\$ 122.78						
BASIS SERVICES		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech.	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerk	RLS - Project Manager	Senior Environmental Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item		
FUNCTION CODE 160 - ROADWAY DESIGN																								
160	A. Flat Surveying assuming LIDAR collection for entire ROW from Loop 1604 to north of Marshall																							
160 A	2. LIDAR																		0					
160 A.1	1. LIDAR																		222	\$ 37,106.04				
160 B	B. Digital Planimetric Mapping (DGM) and Digital Terrain Modeling (DTM)																							
160 B.1	1. Update DGN files as necessary																		0					
160 B.2	2. Update DTM files as necessary																		0					
160 C	C. Roadway Design Controls - identify and prepare design exceptions and waivers																		0					
160 C.1	1. Geometric Design																		0					
160 C.1.a	a. Schematic Utilization: Refine the horizontal and vertical alignments of the design schematic																		400	\$ 62,425.32	0			
160 C.2	2. Roadway Design																		0					
160 C.2.a	a. Provide roadway plan and profile drawings																		0					
	US 281																		0					
	Horizontal Alignment Data Sheets		2	4		12	20	40				120							198	\$ 20,604.32	20	9.9		
	Removal Plan Sheets		4	8		24	40	80				240							396	\$ 41,208.64	20	19.8		
	Proposed Plan Sheets		8	16		48	80	110		160		110							532	\$ 54,207.38	20	26.6		
	Maintlane Profile Sheets		4	8		24	40	80				220							376	\$ 39,298.84	20	18.8		
	Frontage Road (2) Profiles Sheets		4	8		24	32	60				200							328	\$ 34,758.88	14	23.4		
	Ramps (1) Profiles Sheets		2	4		12	20	40				220							298	\$ 30,153.32	21	14.2		
	Direct Connector (2) Profiles Sheets		2	4		4	8	12				48							78	\$ 8,120.64	4	19.5		
	Intersection (5) Profiles Sheets		2	4		12	20	40				120							198	\$ 20,604.32	10	19.8		
	Connector Approach (2) Plan and Profiles		1	2		6	10	16				16							51	\$ 5,369.48	2	25.9		
	Intersection (6) Layout Sheets		2	4		12	20	40				60							258	\$ 24,860.72	12	21.5		
	Minor Street (3) Plan and Profiles		1	2		4	8					32							47	\$ 4,811.02	2	23.5		
	Hardscape Plan Sheets		3	6		18	30	60				90							447	\$ 43,020.48	20	22.4		
	Driveway Cross Section (45) Sheets		2	4		12	20	40				48							126	\$ 12,550.64	5	25.2		
	LP 1604																		0					
	Removal Plan Sheets		4	8		16	32	32				80							172	\$ 19,709.52	8	21.5		
	Proposed Plan Sheets		4	8		24	40	32				60							168	\$ 19,960.60	8	21.0		
	Direct Connector (2) Profiles Sheets		2	4		4	8	20				60							98	\$ 10,553.16	4	24.5		
	Connector Approach (2) Plan and Profiles		1	2		6	10	8				16							43	\$ 4,692.84	7	21.5		
	Hardscape Plan Sheets		1	2	0	8	12	24				36							143	\$ 13,734.54	8	17.9		
	COMMON SHEETS																		0					
	Hardscape Detail Sheets		2	4		12	20	40				120							198	\$ 20,604.32	10	19.8		
160 C.3	3. Typical Sections: Prepare typical sections		4	12	32		160					240							448	\$ 47,145.64				
	4. Maintlane and Frontage Road Design: Design of US 281 mainlanes with full shoulders, direct connectors, frontage roads, entrance and exit ramps, accommodation for future HOV lanes and auxiliary lanes																							
160 C.4	5. Interchange: Provide interchange design consistent with the schematic. Shall consider future expansion of Loop 1604.		60	80		280	670													1,040	\$ 153,170.80			
160 C.5	6. Cross Streets: Provide an intersection layouts at Sonterra Blvd, Redland Rd, Encino Rio, Evans Rd and Stone Oak/TCR Hwy		20	60		260	480													820	\$ 116,774.40			
160 C.6	7. Cut and Fill Quantities: Develop an earthwork analysis and cut and fill quantities and provide final design cross sections at 100 feet intervals.																				328	\$ 43,763.70		
160 C.7	8. Plan Preparation: Prepare roadway plans, profiles and typical sections for the proposed improvements.		4	12		40	320					80								456	\$ 53,476.28			
160 C.8	9. Pavement Design: Incorporate approved pavement design into plans and specifications		8	16		60	120	120				240								564	\$ 56,750.76			
160 C.9	10. Pedestrian and Bicycle Facilities: Coordinate with the State to incorporate pedestrian and bicycle facilities as shown on the schematic																			28	\$ 4,649.16			
160 C.10	11. Form 1002: Prepare and submit State Form 1002 "Proposed Basic Design Data", including documentation of roadway design exceptions and waivers as applicable.		2	12		40						60								114	\$ 13,914.84			
160 C.11			1	2	4	8	24													39	\$ 4,861.98			
160 D	D. Drainage																		0					
160 D.4	5. Layout, Structural Design and Detailing of Drainage Features. Develop layouts using standard details where possible for the following																		0					
160 D.4.a	a. Culverts: New culverts; culvert replacement.					4	12	40												56	\$ 9,549.36			
160 D.4.b	b. Storm Sewers: New or modified storm sewers; manholes; trunk lines.					8	24	24												56	\$ 10,547.48			
160 D.4.c	c. Subsurface drainage at retaining walls.																			0				
160 D.4.d	d. Outfall channels within existing ROW.																			0				
160 D.4.e	e. Bridge deck drainage systems, including internal drainage piping within the bents where required on structures																			0				
160 D.4.f	f. Detention ponds, associated outlet structures and details.					8		40	160	40		120								368	\$ 32,740.80	10	36.8	

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From IP 1604 to Stone Oak Pkwy CSI: 0253-04-146 County: Bexar Prime Provider: HNTB		BASIS SERVICES														Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item				
		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78					
	Task Descriptions	Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	REPL - Project Manager	Senior Environmental Scientist / Planner	Env Specialists / Planner	Senior Survey Tech	Senior Project Controls					
160.D.5	5. Water Pollution Abatement Plan (WPAP)																						
160.D.6.a	a. Develop two alternative water quality treatment concepts.			8	24	24														0			
160.E	F. Signing, Pavement Markings and Signalization (Permanent)																			0			
160.E.1	1. Signing																			0			
160.E.1.a	a. Prepare drawings, specifications and details for all signs.																			0			
160.E.1.a.i	i. Signing - Small Sign Layouts		2	8	48	40		80		120	160	180							638	\$	63,789.08	32	19.9
160.E.1.a.ii	ii. Signing - Large and Overhead Sign Layouts		2	8	48	60		100		120	160	180							678	\$	68,536.48	34	19.9
160.E.1.a.iii	iii. Signing - Large and Overhead Elevation Layouts		2	8	16	40		60		140	120	180							566	\$	53,148.52	26	21.8
160.E.1.a.iv	iv. Signing - Guide Sign Detail Sheets			10	10	20		20		60	80	100							290	\$	26,874.30	14	20.7
160.E.1.a.v	v. Signing - Small Sign Summary Sheets				8	20		16		32	40								116	\$	12,135.80	4	29.0
160.E.1.a.vi	vi. Signing - Large Sign Summary Sheets				12	20		24		80	80								216	\$	20,855.68	8	27.0
160.E.1.a.vii	vii. Signing - Standards				6	8					20								34	\$	4,359.90	12	2.8
160.E.1.b	b. Coordinate with the State for overall temporary, interim and final signing strategies and placement of signs outside contract limits.				8	28	32												68	\$	9,669.40		
160.E.1.c	c. 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.				4	12	16	24	16										72	\$	8,174.24		
160.E.1.d	d. Designate the shields to be attached to guide signs.				1	2	8	12	12										35	\$	3,675.13		
160.E.1.e	e. Illustrate and number the proposed signs on plan sheets.				1	2	8	12	12										35	\$	3,675.13		
160.E.1.f	f. Select each sign foundation from State Standards.				1	4	12	16	12										45	\$	4,788.31		
160.E.2	2. Pavement Marking																			0			
160.E.2.a	a. Detail both permanent and temporary pavement markings and channelization devices on plan sheets.																			0			
160.E.2.a.i	i. Pavement Marking - Main Lane Layouts				16	24		48	120	240		160							608	\$	53,236.48	28	21.7
160.E.2.a.ii	ii. Pavement Marking - Direct Connector Layouts				6	12		16	40	80		96							250	\$	21,985.34	12	20.8
160.E.2.a.iii	iii. Pavement Marking - Intersection Layouts				5	16		24	32	48		48							173	\$	16,062.03	8	21.6
160.E.2.b	b. Coordinate with the State (and other Engineers as required) for overall temporary, interim, and final pavement marking strategies.				24	24	24												72	\$	11,393.76		
160.E.2.c	c. Select Pavement markings from the latest State standards.				6	8	8	12	12										46	\$	5,615.02		
160.E.3	3. Traffic Warrant Studies																			0			
160.E.3.a	a. Prepare a traffic signal warrant studies for 18 locations.		2	12	36	120		32											202	\$	31,954.88		
160.E.4	4. Traffic Signals																			0			
160.E.4.a	a. Provide Traffic Signal Plans including:																			0			
160.E.4.a.i	i. Layout				2		42		10										54	\$	6,346.20	1	54.0
160.E.4.a.ii	ii. Estimate and quantity sheet				4		20		16										40	\$	4,780.12	2	20.0
160.E.4.a.iii	iii. General notes and specification data.				2		12		10										24	\$	2,826.60	1	24.0
160.E.4.a.iv	iv. Condition diagram				4		26		20										50	\$	5,887.84	5	10.0
160.E.4.a.v	v. Plan sheets				12		88		50										150	\$	17,827.22	5	30.0
160.E.4.a.vi	vi. Notes for plan layout																						
160.E.4.a.vii	vii. Wiring Diagram sheets				12		58		50										120	\$	14,307.62	5	24.0
160.E.4.a.viii	viii. Quantity and Phasing sheets				12		58		50										120	\$	14,307.62	5	24.0
160.E.4.a.ix	ix. Construction Detail sheets				4		60		16										80	\$	9,472.92	2	40.0
160.E.4.b	b. General Requirements																			0			
160.E.4.b.i	i. Contact local utility companies as needed				1		7												8	\$	1,025.87	0	
160.E.4.b.ii	ii. Confirm power source				2		14												16	\$	2,051.74	0	
160.E.4.b.iii	iii. Prepare governing specifications and special provisions list				4		20		16										40	\$	4,780.12	0	
160.E.4.b.iii	iii. Prepare project estimate				2		12		10										24	\$	2,826.60	0	

ATTACHMENT E_ FEE SCHEDULE

Highway: US 281 - From TP 1604 to Stone Oak Pkwy. CSI: 0253-04-146 County: Bexar Prime Provider: HNTB		\$ 218.27	\$ 300.12	\$ 745.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 170.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78	Total Hours	Total Cost:	Total Sheets or # of Items	Hours per Sheet or Item	
BASIS SERVICES		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS Project Manager	Senior Environment Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls	Total Hours	Total Cost:	Total Sheets or # of Items	Hours per Sheet or Item	
Task Descriptions																							
160.F.1.b	b. Provide Nose Wall layouts (scale 1" = 40'), elevations, quantity estimate, summary of quantities, typical cross sections and structural details of the nose wall																		0	\$			
	E & Q Summary		2	8	12														22	\$	3,961.62	1	22.0
	Typical Section		2	8	12														22	\$	3,961.62	1	22.0
	Layout and Typical Nose Wall A 1200' x 14		2	8	24				48										82	\$	10,840.70	4	20.5
	Layout and Typical Nose Wall B 200' x 15'		2	2	6				12										27	\$	3,028.50	1	22.0
	Layout and Typical Nose Wall C 400' x 15'		2	4	12				24										42	\$	5,565.90	2	21.0
	Layout and Typical Nose Wall C 100' x 17'		2	2	6				12										22	\$	3,028.50	1	22.0
	Layout and Typical Nose Wall C 300' x 18'		2	2	6				12										22	\$	3,028.50	1	22.0
	Structural Wall, Foundation and Panel Details, 5 sheets		8	16	60				60										144	\$	20,462.88	5	28.8
	Aesthetic Details, 3 sheets		8	16	24				42										90	\$	13,145.34	3	30.0
160.F.1.c	c. Determine if any additional walls are required and verify the need for and length of the walls as shown on the schematic.			2	8	32													42	\$	7,017.42		
160.F.1.d	d. Specific requirements for each wall are layout plan, elevation, sectional view, aesthetic details, general guidelines			4	12	40													56	\$	9,549.36		
160.F.2	2. Traffic Control Plan, Detours, Sequence of Construction. Prepare Traffic Control Plans (TCP) for the project:																		0	\$			
160.F.2.a	a. Provide a written narrative of the construction sequencing and work activities per phase.																		0	\$		2	0.0
160.F.2.b	b. Coordinate with the State in scheduling a Traffic Control Workshop and submittal of the TCP for approval by the District Safety Review Team (DSRT)		2	12	16				16										46	\$	8,436.12		
160.F.2.c	c. Develop each TCP to provide continuous, safe access to each adjacent property during all phases of construction and to preserve existing access.		4	24	40														68	\$	15,278.88		
160.F.2.d	d. Design temporary drainage to replace existing drainage disturbed by construction activities or to drain detour pavement.																		0	\$		8	0.0
160.F.2.e	e. Prepare each TCP to include interim signing for every phase of construction.																		0	\$		80	0.0
160.F.2.f	f. Prepare exhibits for and attend meetings with the public, as requested by the State.																		0	\$			
160.F.2.g	g. Identify and coordinate with all utility companies for relocations required																		0	\$			
160.F.2.h	h. 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.)																		0	\$			
160.F.2.i	i. 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.																		0	\$			
160.F.2.j	j. 3D Phasing models for the 3 phases of construction				8	32	280		120										440	\$	51,489.92		
160.F.2.k	k. Analyze temporary traffic signab for preferred traffic control plan for 3 phases of construction to develop recommended intersection geometry and signal phasing at up to 20 intersections																		0	\$			
160.F.3	3. Temporary Traffic Signals and Illumination: Provide design for adjustment/realignment of traffic signal heads where needed. Locations include the 7 superstreet roundabouts.				54		276		210										540	\$	64,629.84	26	20.8
160.F.4	4. Illumination: Provide design of continuous lighting and safety lighting for all conventional and underpass lighting				48		320		240										608	\$	71,592.64	30	20.3
160.F.5	5. Storm Water Pollution Prevention Plans (SW3P): Develop SW3P		2	6	12														20	\$	4,529.10	80	0.0
160.F.6	6. Compute and Tabulate Quantities. Provide the summaries and quantities within all formal submittals.																		0	\$			
160.F.6.a	a. Summary - Traffic Control																		0	\$		1	0.0
160.F.6.b	b. Summary - Removal		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.c	c. Summary - Roadway		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.d	d. Summary - Retaining Wall		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.e	e. Summary - Drainage		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.f	f. Summary - Bridge		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.g	g. Summary - Signing		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.h	h. Summary - Pavement Markings		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.i	i. Summary - Illumination		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.j	j. Summary - Traffic Signal		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.k	k. Summary - ITS																		0	\$		1	0.0
160.F.6.l	l. Summary - Landscaping		2	4				16											22	\$	2,662.90	1	22.0
160.F.6.m	m. Summary - SW3P																		22	\$	2,662.90	1	0.0
160.F.7	7. Miscellaneous Roadway Details. Provide necessary details required to supplement standard details		4	8	0	24	40	80	80	0	180								416	\$	43,555.24	16	26.0
160.F.8	8. Miscellaneous Structural Details. Provide necessary details required to supplement standard details.		2	4		12	20	60											98	\$	11,819.32	4	24.5

ATTACHMENT E- FEE SCHEDULE

Highway		BASIS SERVICES														Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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CSI 0253 04-146		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CAD Operator	CADD Operator	Admin / Clerical	RPS - Project Manager	Senior Environmental Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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160 F.9	9. Organization of Plan Sheets.		16	16		32	80	120				180								160 F.10	10. Estima.		4	16	48		120		120											160 F.11	11. INVEST Gold Certification.		2	8	14															160 F.12	12. Specifications and General Notes.		4	16	32	120	80		100											160 F.13	13. Design time determination.		2	2		120														160 F.14	14. Construction Time Determination.		1	1		4															b. Develop road user cost for lane rental and milestones.		1	1		60														160 F.15	15. Plans Adequate Project Reviews. Submit plans and design calculations at 30%, 60%, 90%, and 100% submittal.		4	16	40				120											160 F.16	16. Plan Reviews.																			160 F.16 a	a. Submit the required sets of plans at each review stage. Address errors/omissions.		4	16	40															160 F.16 b	b. At each submittal stage prepare written responses to comments on the comment response form and attend comment resolution meetings.		4	16	120								20							160 F.16 c	c. At each succeeding submittal, provide in-house review comments with responses and internal QA/QC markups including red lined plans with 30%, 60%, 90%, and 100% complete checkables.		4	8	32				80											160 F.17	17. Progress Coordination Meetings.																			160 F.17 a	a. Attend periodic progress meetings with the as required to monitor the development of the project.																			160 F.17 a.i	i. Design Kickoff (1 each)		4	4	8	16														160 F.17 a.ii	ii. Design Concept Conference (1 each)		8	8	8	8														160 F.17 a.iii	iii. Traffic Control Plan Preliminary District Safety Review Team (DSRT) Concept Review (1 each)		8	8	8															160 F.17 a.iv	iv. Traffic Control Plan DSRT Final Review (1 each)		8	8	8															160 F.17 a.v	v. Hydraulic Plan Concept Review (1 each)		8	8	8															160 F.17 a.vi	vi. Illumination Plan Concept Review (1 each)		8	8	8															160 F.17 a.vii	vii. Twice monthly Coordination meetings with the STATE Project Manager (16 each) during design and once monthly.		30	30	30															160 F.17 a.viii	viii. Plans Adequate Review (1 at each submittal stage)		4	8	40															160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100											
160 F.10	10. Estima.		4	16	48		120		120											160 F.11	11. INVEST Gold Certification.		2	8	14															160 F.12	12. Specifications and General Notes.		4	16	32	120	80		100											160 F.13	13. Design time determination.		2	2		120														160 F.14	14. Construction Time Determination.		1	1		4															b. Develop road user cost for lane rental and milestones.		1	1		60														160 F.15	15. Plans Adequate Project Reviews. Submit plans and design calculations at 30%, 60%, 90%, and 100% submittal.		4	16	40				120											160 F.16	16. Plan Reviews.																			160 F.16 a	a. Submit the required sets of plans at each review stage. Address errors/omissions.		4	16	40															160 F.16 b	b. At each submittal stage prepare written responses to comments on the comment response form and attend comment resolution meetings.		4	16	120								20							160 F.16 c	c. At each succeeding submittal, provide in-house review comments with responses and internal QA/QC markups including red lined plans with 30%, 60%, 90%, and 100% complete checkables.		4	8	32				80											160 F.17	17. Progress Coordination Meetings.																			160 F.17 a	a. Attend periodic progress meetings with the as required to monitor the development of the project.																			160 F.17 a.i	i. Design Kickoff (1 each)		4	4	8	16														160 F.17 a.ii	ii. Design Concept Conference (1 each)		8	8	8	8														160 F.17 a.iii	iii. Traffic Control Plan Preliminary District Safety Review Team (DSRT) Concept Review (1 each)		8	8	8															160 F.17 a.iv	iv. Traffic Control Plan DSRT Final Review (1 each)		8	8	8															160 F.17 a.v	v. Hydraulic Plan Concept Review (1 each)		8	8	8															160 F.17 a.vi	vi. Illumination Plan Concept Review (1 each)		8	8	8															160 F.17 a.vii	vii. Twice monthly Coordination meetings with the STATE Project Manager (16 each) during design and once monthly.		30	30	30															160 F.17 a.viii	viii. Plans Adequate Review (1 at each submittal stage)		4	8	40															160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																															
160 F.11	11. INVEST Gold Certification.		2	8	14															160 F.12	12. Specifications and General Notes.		4	16	32	120	80		100											160 F.13	13. Design time determination.		2	2		120														160 F.14	14. Construction Time Determination.		1	1		4															b. Develop road user cost for lane rental and milestones.		1	1		60														160 F.15	15. Plans Adequate Project Reviews. Submit plans and design calculations at 30%, 60%, 90%, and 100% submittal.		4	16	40				120											160 F.16	16. Plan Reviews.																			160 F.16 a	a. Submit the required sets of plans at each review stage. Address errors/omissions.		4	16	40															160 F.16 b	b. At each submittal stage prepare written responses to comments on the comment response form and attend comment resolution meetings.		4	16	120								20							160 F.16 c	c. At each succeeding submittal, provide in-house review comments with responses and internal QA/QC markups including red lined plans with 30%, 60%, 90%, and 100% complete checkables.		4	8	32				80											160 F.17	17. Progress Coordination Meetings.																			160 F.17 a	a. Attend periodic progress meetings with the as required to monitor the development of the project.																			160 F.17 a.i	i. Design Kickoff (1 each)		4	4	8	16														160 F.17 a.ii	ii. Design Concept Conference (1 each)		8	8	8	8														160 F.17 a.iii	iii. Traffic Control Plan Preliminary District Safety Review Team (DSRT) Concept Review (1 each)		8	8	8															160 F.17 a.iv	iv. Traffic Control Plan DSRT Final Review (1 each)		8	8	8															160 F.17 a.v	v. Hydraulic Plan Concept Review (1 each)		8	8	8															160 F.17 a.vi	vi. Illumination Plan Concept Review (1 each)		8	8	8															160 F.17 a.vii	vii. Twice monthly Coordination meetings with the STATE Project Manager (16 each) during design and once monthly.		30	30	30															160 F.17 a.viii	viii. Plans Adequate Review (1 at each submittal stage)		4	8	40															160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																			
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160 F.17 a.v	v. Hydraulic Plan Concept Review (1 each)		8	8	8															160 F.17 a.vi	vi. Illumination Plan Concept Review (1 each)		8	8	8															160 F.17 a.vii	vii. Twice monthly Coordination meetings with the STATE Project Manager (16 each) during design and once monthly.		30	30	30															160 F.17 a.viii	viii. Plans Adequate Review (1 at each submittal stage)		4	8	40															160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																			
160 F.17 a.vi	vi. Illumination Plan Concept Review (1 each)		8	8	8															160 F.17 a.vii	vii. Twice monthly Coordination meetings with the STATE Project Manager (16 each) during design and once monthly.		30	30	30															160 F.17 a.viii	viii. Plans Adequate Review (1 at each submittal stage)		4	8	40															160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																							
160 F.17 a.vii	vii. Twice monthly Coordination meetings with the STATE Project Manager (16 each) during design and once monthly.		30	30	30															160 F.17 a.viii	viii. Plans Adequate Review (1 at each submittal stage)		4	8	40															160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																											
160 F.17 a.viii	viii. Plans Adequate Review (1 at each submittal stage)		4	8	40															160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																															
160 F.17 a.ix	ix. STATE Review Comment Resolution meetings		4	4	4															160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
160 F.17 a.x	x. Plans Adequate Review Comment Resolution (4 each - 30%, 60%, 90%, 100%)		4	4	4															160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
160 F.17 a.xi	xi. Traffic Control Plan Review Comment Resolution (2 each - concept and DSRT final review)		4	4	4															160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
160 F.17 a.xii	xii. 30% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
160 F.17 a.xiii	xiii. 60% Comment Resolution (1 each)		4	4	4															160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
160 F.17 a.xiv	xiv. 90% Comment Resolution (1 each)		4	4	4															160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
160 F.17 a.xv	xv. 100% Comment Resolution (1 each)		4	4	4															160 F.17 a.xvi	xvi. Pre-Construction/Partnering Meeting (1 each)		4	4	4															160 F.17 b	b. Prepare meeting minutes and submit to the State Project Manager for review via e mail within five (5) working days of the meeting.		16	32	32								0	200						160 G	G. Advanced Traffic Signal System (ATSS)				140	460		100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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ATTACHMENT E- FEE SCHEDULE

Highway		US 281 - From LP 1604 to Stone Oak Pkwy																				
CSF		0253-04-146																				
County:		Bexar																				
Prime Provider:		HNTB																				
BASIS SERVICES		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 170.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78				
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Environmental Scientist / Planner	Senior Specialist / Planner	Senior Survey Tech	Senior Project Controls	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item
160.H	H. Bridge Design																		0			
160.H.1	1. Bridge Layouts																		0			
160.H.1.a	a. Prepare the bridge layout plan sheets for the following structures:																		0			
160.H.1.a.1	1. LP 1604/US 281 direct connectors																		0			
160.H.1.a.1	DCSBWB																		0			
160.H.1.a.1	BRIDGE LAYOUT			8	40	48	60	60		180	80							476	\$ 50,005.97	8	59.5	
160.H.1.a.1	TYPICAL SECTIONS																91	\$ 9,470.27	2	45.5		
160.H.1.a.1	ESTIMATED QUANTITIES																46	\$ 4,916.55	1	46.0		
160.H.1.a.1	BEARING SEAT ELEVATIONS																46	\$ 4,916.55	1	46.0		
160.H.1.a.1	EST QUANTITIES AND BRG SEAT ELEV																0					
160.H.1.a.1	FOUNDATION LAYOUT																165	\$ 18,127.40	4	41.3		
160.H.1.a.1	FOOTING DETAILS																213	\$ 22,304.44	5	42.6		
160.H.1.a.1	BENT INFORMATION																46	\$ 4,962.93	1	46.0		
160.H.1.a.1	COLUMN DETAILS																895	\$ 101,255.93	18	49.7		
160.H.1.a.1	ABUTMENT PLAN & ELEV																40	\$ 4,439.08	1	40.0		
160.H.1.a.1	ABUTMENT DETAILS																48	\$ 5,320.35	1	48.0		
160.H.1.a.1	INTERIOR BENT																1,632	\$ 184,493.80	40	40.8		
160.H.1.a.1	INTERIOR BENT STRADDLE																223	\$ 27,232.01	4	55.8		
160.H.1.a.1	INTERIOR BENT ECCENTRIC																240	\$ 28,377.96	4	60.0		
160.H.1.a.1	FRAMING PLAN																425	\$ 45,004.75	8	53.1		
160.H.1.a.1	FRAMING PLAN - STEEL																74	\$ 8,719.93	1	74.0		
160.H.1.a.1	SLAB DETAILS																704	\$ 73,387.67	16	44.0		
	IBND																40	\$ 4,395.43	1	40.0		
	CONTINUOUS PLATE GIRDER UNIT																200	\$ 23,655.12	4	50.0		
	STEEL UNIT BEARING DETAILS																100	\$ 11,237.56	2	50.0		
	MISC DETAILS																276	\$ 31,065.45	6	50.0		
160.H.1.a.1	DCSBB																0					
160.H.1.a.1	BRIDGE LAYOUT																359	\$ 38,634.05	6	59.8		
160.H.1.a.1	TYPICAL SECTIONS																91	\$ 9,470.27	2	45.5		
160.H.1.a.1	ESTIMATED QUANTITIES																46	\$ 4,916.55	1	46.0		
160.H.1.a.1	BEARING SEAT ELEVATIONS																46	\$ 4,916.55	1	46.0		
160.H.1.a.1	EST QUANTITIES AND BRG SEAT ELEV																0					
160.H.1.a.1	FOUNDATION LAYOUT																121	\$ 13,765.42	3	40.3		
160.H.1.a.1	FOOTING DETAILS																251	\$ 25,382.08	5	50.2		
160.H.1.a.1	BENT INFORMATION																46	\$ 4,962.93	1	46.0		
160.H.1.a.1	COLUMN DETAILS																590	\$ 67,031.02	12	49.2		
160.H.1.a.1	ABUTMENT PLAN & ELEV																0					
160.H.1.a.1	ABUTMENT DETAILS																0					
160.H.1.a.1	INTERIOR BENT																812	\$ 90,200.60	20	40.6		
160.H.1.a.1	INTERIOR BENT STRADDLE																223	\$ 27,232.01	4	55.8		
160.H.1.a.1	INTERIOR BENT ECCENTRIC																360	\$ 42,587.40	6	60.0		
160.H.1.a.1	FRAMING PLAN																213	\$ 22,604.69	4	53.3		
160.H.1.a.1	FRAMING PLAN - STEEL																148	\$ 17,464.41	2	74.0		
160.H.1.a.1	SLAB DETAILS																528	\$ 55,124.31	12	44.0		
	IBND																40	\$ 4,395.43	1	40.0		
	CONTINUOUS PLATE GIRDER UNIT																400	\$ 47,310.24	8	50.0		
	STEEL UNIT BEARING DETAILS																100	\$ 11,237.56	2	50.0		
	MISC DETAILS																276	\$ 31,065.45	6	46.0		
160.H.1.a.1	ii. NB and SB bridges at Redland Rd																0					

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From IP 1604 to Stone Oak Prkwy																						
CSI: 0253 04-146																						
County: Bevar																						
Prime Provider: HNTB																						
BASIS SERVICES		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 157.79	\$ 117.37	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58	\$ 122.78				
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Environmental Scientist / Planner	Env Specialists / Planner	Senior Survey Tech	Senior Project Controls	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item
160.H.1.a.ii	Redland Road (SB & NB)																		0			
160.H.1.a.ii	BRIDGE LAYOUT			3	11	14	20	14	14	61									137	\$ 14,397.80	2	68.5
160.H.1.a.ii	TYPICAL SECTIONS			0	0	0	0	0	0	0									0			
160.H.1.a.ii	ESTIMATED QUANTITIES			0	0	0	0	0	0	0									0			
160.H.1.a.ii	BEARING SEAT ELEVATIONS			0	0	0	0	0	0	0									0			
160.H.1.a.ii	EST QUANTITIES AND BRG SEAT ELEV			2	4	8	20	16	8	27									80	\$ 8,599.90	2	40.0
160.H.1.a.ii	FOUNDATION LAYOUT			0	0	0	0	0	0	0									0			
160.H.1.a.ii	FOOTING DETAILS			0	0	0	0	0	0	0									0			
160.H.1.a.ii	BENT INFORMATION			0	0	0	0	0	0	0									0			
160.H.1.a.ii	COLUMN DETAILS			0	0	0	0	0	0	0									0			
160.H.1.a.ii	ABUTMENT PLAN & ELEV			3	12	22	27	29	27	36									146	\$ 16,362.19	4	36.5
160.H.1.a.ii	ABUTMENT DETAILS			3	14	26	26	34	26	43									172	\$ 19,175.17	4	43.0
160.H.1.a.ii	INTERIOR BENT			6	32	48	48	64	32	90									320	\$ 36,014.86	8	40.0
160.H.1.a.ii	INTERIOR BENT STRADDLE			0	0	0	0	0	0	0									0			
160.H.1.a.ii	INTERIOR BENT ECCENTRIC			0	0	0	0	0	0	0									0			
160.H.1.a.ii	FRAMING PLAN			2	4	11	11	11	11	25									75	\$ 8,095.16	2	37.5
160.H.1.a.ii	FRAMING PLAN - STEEL			0	0	0	0	0	0	0									0			
160.H.1.a.ii	SLAB DETAILS			3	8	15	30	23	23	50									152	\$ 15,999.33	4	38.0
160.H.1.a.ii	IBND			1	4	7	73	18	4	14									71	\$ 7,751.36	2	35.5
160.H.1.a.ii	CONTINUOUS PLATE GIRDER UNIT			0	0	0	0	0	0	0									0			
160.H.1.a.ii	STEEL UNIT BEARING DETAILS			0	0	0	0	0	0	0									0			
160.H.1.a.ii	MISC DETAILS			3	16	24	24	32	16	45									160	\$ 18,007.43	4	40.0
160.H.1.a.iii	SB braided ramp to Redland Rd																		0			
160.H.1.a.iii	SB EXIT RAMP (REDLAND RD.)																		0			
160.H.1.a.iii	BRIDGE LAYOUT			3	16	8	12	10	12	40									101	\$ 11,535.69	2	50.5
160.H.1.a.iii	TYPICAL SECTIONS			0	0	0	0	0	0	0									0			
160.H.1.a.iii	ESTIMATED QUANTITIES			0	0	0	0	0	0	0									0			
160.H.1.a.iii	BEARING SEAT ELEVATIONS			0	0	0	0	0	0	0									0			
160.H.1.a.iii	EST QUANTITIES AND BRG SEAT ELEV			1	2	4	10	8	4	11									40	\$ 4,799.95	1	40.0
160.H.1.a.iii	FOUNDATION LAYOUT			0	0	0	0	0	0	0									0			
160.H.1.a.iii	FOOTING DETAILS			0	0	0	0	0	0	0									0			
160.H.1.a.iii	BENT INFORMATION			0	0	0	0	0	0	0									0			
160.H.1.a.iii	COLUMN DETAILS			0	0	0	0	0	0	0									0			
160.H.1.a.iii	ABUTMENT PLAN & ELEV			1	6	11	11	14	11	18									72	\$ 8,016.03	2	36.0
160.H.1.a.iii	ABUTMENT DETAILS			2	7	13	13	17	13	22									87	\$ 9,745.83	2	43.5
160.H.1.a.iii	INTERIOR BENT			3	16	24	24	32	16	45									160	\$ 18,007.43	4	40.0
160.H.1.a.iii	INTERIOR BENT STRADDLE			7	29	36	48	24	16	40									200	\$ 25,267.64	4	50.0
160.H.1.a.iii	INTERIOR BENT ECCENTRIC			7	26	33	44	33	20	40									203	\$ 24,891.12	4	50.8
160.H.1.a.iii	FRAMING PLAN			2	4	11	11	11	11	25									75	\$ 8,095.16	2	37.5
160.H.1.a.iii	FRAMING PLAN - STEEL			0	0	0	0	0	0	0									0			
160.H.1.a.iii	SLAB DETAILS			1	6	11	23	17	17	38									113	\$ 11,702.11	3	37.7
160.H.1.a.iii	IBND			1	2	4	12	9	2	7									37	\$ 4,133.51	1	37.0
160.H.1.a.iii	CONTINUOUS PLATE GIRDER UNIT			0	0	0	0	0	0	0									0			
160.H.1.a.iii	STEEL UNIT BEARING DETAILS			0	0	0	0	0	0	0									0			
160.H.1.a.iii	MISC DETAILS			2	8	12	12	16	8	22									80	\$ 9,091.02	2	40.0
160.H.1.a.iv	NB and SB bridges at Encino Rio																		0			

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSI: 0253-04-146 County: Bexar Prime Provider: HNTB		BASIS SERVICES															Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item
		\$ 218.27	\$ 300.17	\$ 245.55	\$ 204.63	\$ 152.29	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.05	\$ 65.48	\$ 170.05	\$ 163.70	\$ 95.49				
	Task Descriptions	Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CAD Operator	CADD Operator	Admin / Clerk	RPLS - Project Manager	Senior Environmental Scientist / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls		
160.H.1.a.v	Endmo Rio Road (SB & NB)																			
160.H.1.a.v	BRIDGE LAYOUT			3	11	14	20	14	14	61										
160.H.1.a.v	TYPICAL SECTIONS			0	0	0	0	0	0	0										
160.H.1.a.v	ESTIMATED QUANTITIES			0	0	0	0	0	0	0										
160.H.1.a.v	BEARING SEAT ELEVATIONS			0	0	0	0	0	0	0										
160.H.1.a.v	EST QUANTITIES AND BRG SEAT ELEV			2	4	8	20	16	8	22							80		\$ 8,599.90	
160.H.1.a.v	FOUNDATION LAYOUT			0	0	0	0	0	0	0										
160.H.1.a.v	FOOTING DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	BENT INFORMATION			0	0	0	0	0	0	0										
160.H.1.a.v	COLUMN DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	ABUTMENT PLAN & ELEV			3	12	22	22	29	22	36							146		\$ 16,362.19	
160.H.1.a.v	ABUTMENT DETAILS			3	14	26	26	34	26	43							172		\$ 19,175.17	
160.H.1.a.v	INTERIOR BENT			6	32	48	48	64	32	90							320		\$ 36,014.86	
160.H.1.a.v	INTERIOR BENT STRADDLE			0	0	0	0	0	0	0										
160.H.1.a.v	INTERIOR BENT ECCENTRIC			0	0	0	0	0	0	0										
160.H.1.a.v	FRAMING PLAN			2	4	11	11	11	11	25									\$ 8,095.16	
160.H.1.a.v	FRAMING PLAN - STEEL			0	0	0	0	0	0	0										
160.H.1.a.v	SLAB DETAILS			3	8	15	30	23	23	50							152		\$ 15,999.33	
160.H.1.a.v	IBND			1	4	7	23	18	4	14							71		\$ 7,751.36	
160.H.1.a.v	CONTINUOUS PLATE GIRDER UNIT			0	0	0	0	0	0	0										
160.H.1.a.v	STEEL UNIT BEARING DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	MISC DETAILS			3	16	24	24	32	16	45							160		\$ 18,007.43	
160.H.1.a.v	SB and NB Bridges at Evans Rd																			
160.H.1.a.v	Evans Road (SB & NB)																			
160.H.1.a.v	BRIDGE LAYOUT			3	11	14	20	14	14	61										
160.H.1.a.v	TYPICAL SECTIONS			0	0	0	0	0	0	0										
160.H.1.a.v	ESTIMATED QUANTITIES			0	0	0	0	0	0	0										
160.H.1.a.v	BEARING SEAT ELEVATIONS			0	0	0	0	0	0	0										
160.H.1.a.v	EST QUANTITIES AND BRG SEAT ELEV			2	4	8	20	16	8	22							80		\$ 8,599.90	
160.H.1.a.v	FOUNDATION LAYOUT			0	0	0	0	0	0	0										
160.H.1.a.v	FOOTING DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	BENT INFORMATION			0	0	0	0	0	0	0										
160.H.1.a.v	COLUMN DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	ABUTMENT PLAN & ELEV			3	12	22	22	29	22	36							146		\$ 16,362.19	
160.H.1.a.v	ABUTMENT DETAILS			3	14	26	26	34	26	43							172		\$ 19,175.17	
160.H.1.a.v	INTERIOR BENT			6	32	48	48	64	32	90							320		\$ 36,014.86	
160.H.1.a.v	INTERIOR BENT STRADDLE			0	0	0	0	0	0	0										
160.H.1.a.v	INTERIOR BENT ECCENTRIC			0	0	0	0	0	0	0										
160.H.1.a.v	FRAMING PLAN			2	4	11	11	11	11	25									\$ 8,095.16	
160.H.1.a.v	FRAMING PLAN - STEEL			0	0	0	0	0	0	0										
160.H.1.a.v	SLAB DETAILS			3	8	15	30	23	23	50							152		\$ 15,999.33	
160.H.1.a.v	IBND			1	4	7	23	18	4	14							71		\$ 7,751.36	
160.H.1.a.v	CONTINUOUS PLATE GIRDER UNIT			0	0	0	0	0	0	0										
160.H.1.a.v	STEEL UNIT BEARING DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	MISC DETAILS			3	16	24	24	32	16	45							160		\$ 18,007.43	
160.H.1.a.v	Marshall Road (NB)																			
160.H.1.a.v	BRIDGE LAYOUT			1	5	7	10	7	7	31										
160.H.1.a.v	TYPICAL SECTIONS			1	3	4	6	4	4	18									\$ 7,009.28	
160.H.1.a.v	ESTIMATED QUANTITIES			0	0	0	0	0	0	0									\$ 4,193.56	
160.H.1.a.v	BEARING SEAT ELEVATIONS			0	0	0	0	0	0	0										
160.H.1.a.v	EST QUANTITIES AND BRG SEAT ELEV			1	2	4	10	8	4	11							40		\$ 4,299.95	
160.H.1.a.v	FOUNDATION LAYOUT			0	0	0	0	0	0	0										
160.H.1.a.v	FOOTING DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	BENT INFORMATION			0	0	0	0	0	0	0										
160.H.1.a.v	COLUMN DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	ABUTMENT PLAN & ELEV			3	12	22	22	29	22	36							146		\$ 16,362.19	
160.H.1.a.v	ABUTMENT DETAILS			2	7	13	13	17	13	27							87		\$ 9,745.83	
160.H.1.a.v	INTERIOR BENT			3	16	24	24	32	16	45							160		\$ 18,007.43	
160.H.1.a.v	INTERIOR BENT STRADDLE			0	0	0	0	0	0	0										
160.H.1.a.v	INTERIOR BENT ECCENTRIC			0	0	0	0	0	0	0										
160.H.1.a.v	FRAMING PLAN			1	2	6	6	6	6	13									\$ 4,310.87	
160.H.1.a.v	FRAMING PLAN - STEEL			0	0	0	0	0	0	0										
160.H.1.a.v	SLAB DETAILS			2	4	8	15	11	11	25							76		\$ 8,106.07	
160.H.1.a.v	IBND			1	2	4	12	9	2	7							37		\$ 4,133.51	
160.H.1.a.v	CONTINUOUS PLATE GIRDER UNIT			0	0	0	0	0	0	0										
160.H.1.a.v	STEEL UNIT BEARING DETAILS			0	0	0	0	0	0	0										
160.H.1.a.v	MISC DETAILS			2	8	12	12	16	8	22							80		\$ 9,091.02	

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSI: .0753-04-146 County: Bexar Prime Provider: HNTB		BASIS SERVICES																Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or Item
		\$ 718.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 84.58	\$ 100.95	\$ 70.94	\$ 95.49	\$ 81.85	\$ 65.48	\$ 120.05	\$ 163.70	\$ 95.49	\$ 84.58				
	Task Descriptions	Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Senior CAD Operator	CAD Operator	Admin / Clerical	RPLS - Project Manager	Senior Environmental Scientists / Planner	Env Specialist / Planner	Senior Survey Tech	Senior Project Controls			
	BRIDGE STANDARD DRAWINGS																				
	OPTIONAL DRILLED SHAFT REINFORCING-ODSR			1	1	2	1	2	1												
	PRESTRESSED CONCRETE I-GIRDER DETAILS (IGD)			1	1	2	1	2	1												
	SEALED EXPANSION JOINT-SE-A (MOD)			1	1	2	1	2	1												
	BRIDGE MOUNTED CLEARANCE SIGN ASSEMBLY (BMCS)			1	1				1												
	BRIDGE PROTECTIVE ASSEMBLY (BPA)			1	1				1												
	CONCRETE RIPRAP AND SHOULDER DRAINS (CRR)			1	1				1												
	CEMENT STABILIZED BACKFILL (CSAB)			1	1				1												
	COMMON FOUNDATION DETAILS (FD) (MOD)			1	1	2	1	2	1												
	CONTINUOUS SLAB DETAILS (IGCS) (MOD)			1	1	2	1	2	1												
	ELASTOMERIC BEARING AND GIRDER END DETAILS (IGEB) (MOD)			1	1	2	1	2	1												
	MISCELLANEOUS SLAB DETAILS (IGMS) (MOD)			1	1	2	1	2	1												
	THICKENED SLAB END DETAILS (IGTS) (MOD)			1	1				1												
	MINIMUM ERECTION AND BRACING REQUIREMENTS-MEBR (C)			1	1				1												
	MINIMUM ERECTION AND BRACING REQUIREMENTS-MEBR(S)			1	1				1												
	PERMANENT METAL DECK FORMS-PMDF			1	1				1												
	PRESTRESSED CONCRETE SLAB BEAM DETAILS-PSB-S5B1S			1	1				1												
	TRAFFIC RAIL-TYPE SSTR			1	1				1												
	MISCELLANEOUS SLAB DETAILS-SBMS			1	1				1												
	STANDARD ERECTION AND BRACING REQUIREMENTS-SBBR			1	1				1												
	CONTINUOUS SLAB DETAILS-SBMS (MOD)			1	1	2	1	2	1												
	ELASTOMERIC BEARINGS-SBB (MOD)			1	1	2	1	2	1												
	STEEL BEAM MISCELLANEOUS DETAILS-SBMD			1	1				1												
	THICKENED SLAB END DETAILS-SBTS (MOD)			1	1	2	1	2	1												
	ELASTOMERIC BEARING DETAILS-SGEB (MOD)			1	1	2	1	2	1												
	MISCELLANEOUS DETAILS-SGMD			1	1				1												
	DRAINAGE DETAILS			2	3	6	6	10	6												
	DRAINAGE DETAILS			2	3	6	6	10	6												
	DRAINAGE DETAILS			2	3	6	6	10	6												
	DRAINAGE DETAILS			2	3	6	6	10	6												
160 H 1.b	b. Determine the location of each soil boring needed for foundation design			10	80				40												
160 H.1.c	c. Prepare a comparative cost analysis of bridge structures.				16			40	40												
160 H 1.e	e. Coordinate with Project Manager and the San Antonio District's Bridge Section.			56	28																
160 H 1.f	f. Submit preliminary bridge layouts to the State for approval at 30% PS&E Stage submittal			8					16												
160 H 1.g	g. Submit final bridge layouts to the State for approval at 60% PS&E Stage submittal.			8					16												
160 H.5	5. Overhead Sign Bridges. Prepare each structural design and develop detailed structural drawings of required details in accordance with the State's design manuals																				
	Layouts: Overhead Sign Bridge & Cantilever Sign Structures Layouts, 25																				
	Structural Details: Overhead Sign Bridge: Column/Foundation 1 DS																		29		
	Column/Foundation 1 Drilled Shaft			2	4	8	16	16	8	8									2		
	Column/Foundation 2 Drilled Shaft			2	4	8	16	16	8	8									2		
	Column/Foundation AR 3			2	4	8	16	16	8	8									2		
	Structural Details: Cantilever Sign Structures																				
	Column/Foundation 1 Drilled Shaft			2	4	8	16	16	8	8									2		
	Column/Foundation 2 Drilled Shaft			2	4	8	16	16	8	8									2		
	Column/Foundation AR 3			2	4	8	16	16	8	8									2		
160 H.6	6. Detention Ponds. Prepare structural design and develop details for concrete detention ponds.																				
		0	362	1,407	3,417	5,147	8,006	5,344	4,400	6,670	4,543	944	220	120	0	0	0	0	40,525		
																			\$ 4,783,691.29		

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy													
CSJ: 0253-04-146													
County: Bexar													
Prime Provider: HNTB													
BASIS SERVICES		\$ 218.27	\$ 300.12	\$ 245.55	\$ 204.63	\$ 152.79	\$ 117.32	\$ 65.48	\$ 163.70				
Task Descriptions		Principal	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Admin / Clerical	Senior Environmental Scientist / Planner	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
300	FUNCTION CODE 300 – DESIGN VERIFICATION, CHANGES AND ALTERATIONS												
300.A	A. Construction Phase Services									0			
300.A.1	1. Responses to Requests									0			
300.A.1.a	a. Provide Construction Phase Services at the written request of the State's project manager.									0			
300.A.1.a.i	i. Review and approval of shop drawings (1100 Sheets @ 2 hr/sht)		20	180	320	520	1160			2200	\$ 331,225.00	1100	2.0
300.A.1.a.ii	ii. Review and approval of forming details (100 Sheets @ 2 hr/sht)		4	16		60	120			200	\$ 28,375.08	100	2.0
300.A.1.a.iii	iii. Review and approval of temporary shoring submittals(100 Sheets @ 2 hr/sht)		4	16		60	120			200	\$ 28,375.08	100	2.0
300.A.1.a.iv	iv. Responding to requests for information (150 RFIs @ 8 hrs)		20	100	160	400	500			1180	\$ 183,074.20	150	7.9
300.A.1.a.v	v. Answering general questions		4	20			60	48		132	\$ 16,293.72		
300.A.1.a.vi	vi. Providing clarification		4	20			60	70		154	\$ 17,734.28		
300.A.1.a.vii	vii. Assist the State in preparing change orders		8	30		132	240			410	\$ 58,092.54		
300.A.1.a.viii	viii. Other project related tasks in support of the State during construction		20	40		80	220	260		620	\$ 70,882.80		
120.G	B. Construction Phase Public Involvement Support.			10					20	30	\$ 5,729.50	48	0.6
Totals		0	84	432	480	1252	2480	378	20	5126	\$ 739,782.20	1498	

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$ 120.00	272	\$	32,640.00
Meals (overnight stay required)	day/person	\$ 59.00	272	\$	16,048.00
Mileage	mile	\$ 0.540	10240	\$	5,529.60
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)	day	\$ 85.00	384	\$	32,640.00
Rental Car Fuel	per gallon	\$ 20.00	1152	\$	23,040.00
Air Travel	Rd. Trip/person	\$ 800.00	192	\$	153,600.00
Parking	day	\$ 20.00	576	\$	11,520.00
Overnight Mail - letter size	each	\$ 56.00	15	\$	840.00
Overnight Mail - oversized box	each	\$ 50.00	40	\$	2,000.00
Courier Services (Deliveries)	each	\$ 4.00	100	\$	400.00
Photocopies B/W (8 1/2" X 11")	each	\$ 0.15	68000	\$	10,200.00
Photocopies B/W (11" X 17")	each	\$ 0.30	300000	\$	90,000.00
Photocopies Color (8 1/2" X 11")	each	\$ 1.00	3500	\$	3,500.00
Photocopies Color (11" X 17")	each	\$ 2.00	19000	\$	38,000.00
Plots (B/W on Bond)	square foot	\$ 1.75	4500	\$	7,875.00
Plots (Color on Bond)	square foot	\$ 3.00	3000	\$	9,000.00
Presentation Boards 30"x40" Color Mounted	each	\$ 170.00	16	\$	2,720.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Medium Project (Includes labor,	day	\$ 2,400.00	4	\$	9,600.00
Mobile Equipment LiDAR				\$	
LiDAR Mobile Mapping System	LF	\$ 11.55	34327	\$	396,476.85
Lodging/Hotel - Taxes and Fees	Day	\$ 50.00	384	\$	19,200.00
Taxi/Cab fare	Each	\$ 50.00	384	\$	19,200.00
Website Registration	Each	\$ 75.00	1	\$	75.00
Website Hosting/Domain Renewal	Per Month	\$ 200.00	48	\$	9,600.00
Subtotal Other Direct Expense:				\$	893,704.45

ATTACHMENT E-FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: Cobb, Fendley, & Associates, Inc.												
	BASIS SERVICES	\$ 216.60	\$ 201.96	\$ 115.03	\$ 87.81	\$ 108.30	\$ 79.03	\$ 60.00	\$ 131.71	\$ 102.44	Total Hours	
	Task Descriptions	Task Manager	Senior Engineer	Project Engineer	Engineer-in-Training	Senior Engineer Tech	Engineer Tech	Admin / Clerical	Senior Utilities Coordinator	Utilities Coordinator		Total Cost
	FUNCTION CODE 130 – RIGHT-OF-WAY (ROW) DATA	22	28	238	190	74	88	24	266	350	1280	\$ 141,778.82
	FUNCTION CODE 145 – MANAGING CONTRACT	44	0	16	0	0	0	12	56	0	128	\$ 19,466.64
	LABOR TOTALS	66	28	254	190	74	88	36	322	350	1408	\$ 161,245.46
	SUE UNIT COST ITEMS											
	UNIT COST ITEMS											
	OTHER DIRECT EXPENSES											\$ 3,511.20
	PROJECT TOTAL	\$ 14,295.60	\$ 5,654.88	\$ 29,217.62	\$ 16,683.90	\$ 8,014.20	\$ 6,954.64	\$ 2,160.00	\$ 42,410.62	\$ 35,854.00		\$ 164,756.66
	% of total Hours	4.69%	1.99%	18.04%	13.49%	5.26%	6.25%	2.56%	22.87%	24.86%		

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy												
CSJ: 0253-04-146												
County: Bexar												
Prime Provider: HNTB												
Sub Provider: Cobb, Fendley, & Associates, Inc.												
BASIS SERVICES		\$ 216.60	\$ 201.96	\$ 115.03	\$ 87.81	\$ 108.30	\$ 79.03	\$ 60.00	\$ 131.71	\$ 102.44		
Task Descriptions		Task Manager	Senior Engineer	Project Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	Admin / Clerical	Sr. Utilities Coordinator	Utilities Coordinator	Total Hours	Total Cost
130	FUNCTION CODE 130 – RIGHT-OF-WAY (ROW) DATA											
130.B	B: Utility Coordination, Investigation, and Engineering Services											
130.B.2	2. Utility Adjustment Coordination											
130.B.2.a	a. Perform utility coordination with involved utility owners.			8	12				16	24	60	\$ 6,539.88
130.B.2.b	b. Coordinate with the STATE											
130.B.2.b.i	i. Work Plan: Coordinate a work plan including a list of the proposed meetings and coordination activities.	4		2				2	2		10	\$ 1,479.88
130.B.2.b.ii	ii. Orientation: Prepare and present, in collaboration with STATE staff, instruction and orientation sessions as required by the STATE's Project Manager.	6		6					6		18	\$ 2,780.04
130.B.2.b.iii	iii. Initial Project Meeting: Attend an initial meeting and an on-site inspection.	3							6		9	\$ 1,440.06
130.B.2.b.iv	iv. External Communications: Coordinate all activities.			8				4	16	12	40	\$ 4,496.88
130.B.2.b.v	v. Permits and rights of entry: Obtain all necessary permits and rights of entry (Not Anticipated)	0	0	0	0	0	0	0	0	0	0	
130.B.2.c	c. Determine which utilities conflict with highway construction											
130.B.2.c.i	i. Prepare Utility Agreement Assemblies (4 anticipated)							4	16	32	52	\$ 5,625.44
130.B.2.c.ii	ii. Prepare Utility Agreements (4 anticipated)				6			2	2	8	18	\$ 1,729.80
130.B.2.c.iii	iii. Prepare Utility Acknowledgements (4 anticipated)								2	8	10	\$ 1,082.94
130.B.2.c.iv	iv. Prepare Escrow Agreements			2					8	2	12	\$ 1,488.62
130.B.2.c.v	v. Submit Utility Agreement assemblies (4 anticipated)							4	2	4	10	\$ 913.18
130.B.2.c.vi	vi. Recommend which utilities shall be installed by "ROW-U-JUAB", or by Form 1082.			2					2	8	12	\$ 1,313.00
130.B.3	3. Utility Engineering											
130.B.3.a	a. Coordinate engineering activities:											
130.B.3.a.i	i. Prepare Utility Layouts		4	8	24	6	32		4	4	82	\$ 7,950.88
130.B.3.b	b. Conduct Group & Individual Meetings with Utility Companies											
130.B.3.b.i	i. Establish Contact with all existing utilities (Anticipate 8)			4	4				8	8	24	\$ 2,684.56
130.B.3.b.ii	ii. Schedule all utility coordination meetings (4 group and 8 individual)			24					24	48	96	\$ 10,838.88
130.B.3.b.iii	iii. Set agenda for all coordination meetings								4	8	12	\$ 1,346.36
130.B.3.b.iv	iv. Establish methodologies for utility construction		2	4	4				4		14	\$ 1,742.12
130.B.3.b.v	v. Orientation: Prepare and present, in collaboration with the STATE, instruction and orientation sessions as required.		2	4					4		10	\$ 1,390.88
130.B.3.b.vi	vi. Initial Project Meeting: Attend an initial meeting and an on-site inspection.	3		6							9	\$ 1,339.98
130.B.3.b.vii	vii. Work Plan: Develop a work plan including a list of the tasks to be performed, a schedule and an estimate.	4		8	16						28	\$ 3,191.60
130.B.3.b.viii	viii. Attend Progress Meetings			32						32	64	\$ 7,895.68
130.B.3.c	c. Review of Utility's Proposed Adjustments											
130.B.3.c.i	i. Evaluate Alternatives: Evaluate alternatives for adjustment of utilities.		4	16	32		8		4		64	\$ 6,617.32
130.B.3.c.ii	ii. Review Relocation Schedules		4	4					4	4	16	\$ 2,204.56

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: Cobb, Fendley, & Associates, Inc.												
BASIS SERVICES		\$ 216.60	\$ 201.96	\$ 115.03	\$ 87.81	\$ 108.30	\$ 79.03	\$ 60.00	\$ 131.71	\$ 102.44		
Task Descriptions		Task Manager	Senior Engineer	Project Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	Admin / Clerical	Sr. Utilities Coordinator	Utilities Coordinator	Total Hours	Total Cost
130.B.3.c.iii	iii. Review Plans for compliance with Utility Accommodation Rules		4	16	40				4	8	72	\$ 7,507.08
130.B.3.c.iv	iv. Review Traffic control design setup		4	4	16						24	\$ 2,672.92
130.B.3.d	d. The ENGINEER shall not provide services for the sole benefit of third parties	0	0	0	0	0	0	0	0	0	0	
130.B.3.e	e. Prepare a Signed and Sealed Proposed Utility Layouts		4	16	32	0	48	0	0	0	100	\$ 9,251.68
130.B.3.f	f. Provide Utility Certification and Special Provisions	2		4					12		18	\$ 2,473.84
130.B.3.g	g. Submit Utility Agreement assemblies			4	4						8	\$ 811.36
130.B.4	4. Utility Construction Management and Verification											
130.B.4.a	a. Schedule a Pre-Construction meeting for each utility adjustment.			56					28	28	112	\$ 12,997.88
130.B.4.b	b. Verification:											
130.B.4.b.i	i. Field verify all utility adjustments					56				56	112	\$ 11,801.44
130.B.4.b.ii	ii. Verify that the utility is in compliance with required specifications					12			12	16	40	\$ 4,519.16
130.B.4.c	c. Provide monthly Status Reports							4	20	8	32	\$ 3,693.72
130.B.4.d	d. Review all payment requests							4	24	64	92	\$ 9,957.20
Totals			22	28	238	190	74	88	24	266	350	\$ 141,778.82

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy															
CSJ: 0253-04-146															
County: Bexar															
Prime Provider: HNTB															
Sub Provider: Cobb, Fendley, & Associates, Inc.															
	BASIS SERVICES	\$ 216.60	\$ 201.96	\$ 115.03	\$ 104.64	\$ 87.81	\$ 108.30	\$ 79.03	\$ 102.44	\$ 81.96	\$ 60.00	\$ 131.71	\$ 102.44		
	Task Descriptions	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	Sr. Utilities Coordinator	Utilities Coordinator	Total Hours	Total Cost
145	FUNCTION CODE 145 – MANAGING CONTRACT														
145.A	A. Program Management and Administration														
145.A.1	1. Leadership and Management Team:														
145.A.1.a	a. Submit a list of proposed personnel for each assignment.	4		4								4		12	\$ 1,853.36
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM)	12		12								24		48	\$ 7,140.60
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)	16										16		32	\$ 5,572.96
145.A.1.d	d. Progress Reports and Invoicing	12									12	12		36	\$ 4,899.72
	Totals	44	0	16	0	0	0	0	0	0	12	56	0	128	\$ 19,466.64

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB
 Sub Provider: Cobb, Fendley, & Associates, Inc.

Unit Costs to be charged to: FC 145

OTHER DIRECT EXPENSE	UNIT	UNIT COST	QUANTITY	COST
Mileage	mile	\$ 0.540	2200	\$ 1,188.00
Parking	day	\$ 20.00	8	\$ 160.00
Toll Charges	each	\$ 4.00	24	\$ 96.00
Standard Postage	letter	\$ 0.49	32	\$ 15.68
Certified Letter Return Receipt	each	\$ 4.69	8	\$ 37.52
Overnight Mail - letter size	each	\$ 56.00	8	\$ 448.00
Courier Services (Deliveries)	each	\$ 4.00	4	\$ 16.00
Photocopies B/W (8 1/2" X 11")	each	\$ 0.15	500	\$ 75.00
Photocopies B/W (11" X 17")	each	\$ 0.30	250	\$ 75.00
Photocopies Color (8 1/2" X 11")	each	\$ 1.00	100	\$ 100.00
Photocopies Color (11" X 17")	each	\$ 2.00	250	\$ 500.00
Plots (Color on Bond)	square foot	\$ 3.00	180	\$ 540.00
Reproduction of CD/DVD	each	\$ 5.00	40	\$ 200.00
CDs	each	\$ 1.50	40	\$ 60.00
Subtotal Other Direct Expense:				\$ 3,511.20

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy						
CSJ:	0253-04-146						
County:	Bexar						
Prime Provider:	HNTB						
Sub Provider:	The DeBerry Group						
	BASIS SERVICES	\$ 230.00	\$ 215.00	\$ 50.00	\$ 120.00	\$ 95.00	
		Senior Project Manager	Task Manager	Admin / Clerical	Sr. Env. Scientist / Planner	Env Specialist / Planner	Total Hours
	Task Descriptions						Total Cost
120	FUNCTION CODE 120 – SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES						
	A. Informal Meetings. Provide technical assistance, preparation of exhibits and minutes for (up to 20) formal and informal meetings with the public	24	200	0	200	24	448 \$ 74,800.00
120.A							
	F. Noise Workshop. Conduct one noise workshop with affected property owners	8	54	0	34	0	96 \$ 17,530.00
120.F							
	Totals	32	254	0	234	24	544 \$ 92,330.00

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy									
CSJ: 0253-04-146									
County: Bexar									
Prime Provider: HNTB									
Sub Provider: The DeBerry Group									
BASIS SERVICES		\$ 230.00	\$ 215.00	\$ 50.00	\$ 120.00	\$ 95.00			
Task Descriptions		Senior Project Manager	Task Manager	Admin / Clerical	Sr. Env. Scientist / Planner	Env Specialist / Planner	Total Hours	Total Cost	
145	FUNCTION CODE 145 – MANAGING CONTRACT								
145.A	A. Program Management and Administration								
145.A.1	1. Leadership and Management Team:								
145.A.1.c	c. Coordination meetings (6 meetings)		12		12		24	\$ 4,020.00	
145.A.1.d	d. Progress Reports and Invoicing		22			22	44	\$ 6,820.00	
Totals		0	34	0	12	22	68	\$ 10,840.00	

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy						
CSJ:	0253-04-146						
County:	Bexar						
Prime Provider:	HNTB						
Sub Provider:	The DeBerry Group						
	BASIS SERVICES	\$ 230.00	\$ 215.00	\$ 50.00	\$ 120.00	\$ 95.00	
		Senior Project Manager	Task Manager	Admin / Clerical	Sr. Env. Scientist / Planner	Env Specialist / Planner	Total Hours
	Task Descriptions						Total Cost
300	FUNCTION CODE 300 - Construction Services						
300.A	G. Construction Phase Public Involvement Support.	80	160		120	82	442 \$ 74,990.00
	Totals	80	160	0	120	82	442 \$ 74,990.00

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
Sub Provider:	The DeBerry Group				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Mileage		mile	\$ 0.540	10000	\$ 5,400.00
Parking		day	\$ 10.00	25	\$ 250.00
Standard Postage		letter	\$ 0.49	50	\$ 24.50
Certified Letter Return Receipt		each	\$ 4.69	25	\$ 117.25
Courier Services (Deliveries)		each	\$ 4.00	100	\$ 400.00
Photocopies B/W (8 1/2" X 11")		each	\$ 0.15	2500	\$ 375.00
Photocopies B/W (11" X 17")		each	\$ 0.30	1250	\$ 375.00
Photocopies Color (8 1/2" X 11")		each	\$ 0.60	6000	\$ 3,600.00
Photocopies Color (11" X 17")		each	\$ 1.17	1500	\$ 1,755.00
Newspaper Advertisement		per publication	\$ 2,430.81	1	\$ 2,430.81
Court Reporter		page	\$ 6.00	50	\$ 300.00
Court Reporter (Public Hearings & Transcription)		day	\$ 300.00	1	\$ 300.00
Law Enforcement/Uniform Officer		hour/officer	\$ 150.00	2	\$ 300.00
Professional Narrator for Public Involvement		event	\$ 200.00	1	\$ 200.00
Translator (English to Spanish) for Public		event	\$ 160.00	1	\$ 160.00
Translator (English to Spanish or Sign Language)		hour	\$ 80.00	4	\$ 320.00
Custodian for Public Involvement		hour/custodian	\$ 25.00	4	\$ 100.00
Sound Technican for Public Involvement		event	\$ 400.00	1	\$ 400.00
Public Involvement Facility Rental		event	\$ 300.00	1	\$ 300.00
Audio - Visual Equipment Rental		event	\$ 875.00	1	\$ 875.00
Audio - Equipment Rental		each	\$ 400.00	1	\$ 400.00
Public Notices - Mass Mailing		per 500	\$ 500.00	1	\$ 500.00
Subtotal Other Direct Expense:					\$ 18,882.56

WAs Used
 Contract No. 15-6SDP5001

ATTACHMENT E- FEE SCHEDULE

PS Contract No. 5026

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: Keville Enterprises Inc.							
	BASIS SERVICES	\$ 147.35	\$ 147.01	\$ 128.82	Total Hours		
	Task Descriptions	Project Controls Manager	Senior Scheduler	Scheduler		Total Cost	Total Sheets of # of Items Hours per Sheet or item
	FUNCTION CODE 145 – MANAGING CONTRACT	0	0	48	48	\$ 6,183.36	22 2.2
	FUNCTION CODE 160 - ROADWAY DESIGN	0	32	260	292	\$ 38,197.52	
	LABOR TOTALS	0	32	308	340	\$ 44,380.88	22
	SUE UNIT COST ITEMS						
	UNIT COST ITEMS						
	OTHER DIRECT EXPENSES					\$ 3,276.00	
	PROJECT TOTAL	\$ -	\$ 4,704.32	\$ 39,676.56		\$ 47,656.88	
	% of total Hours	0.00%	9.41%	90.59%			

Was Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy								
CSJ: 0253-04-146								
County: Bexar								
Prime Provider: HNTB								
Sub Provider: Keville Enterprises Inc.								
BASIS SERVICES		\$ 147.35	\$ 147.01	\$ 128.82				
		Project Controls Manager	Senior Scheduler	Scheduler	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
	Task Descriptions							
145	FUNCTION CODE 145 – MANAGING CONTRACT							
145.A	A. Program Management and Administration							
145.A.1	1. Leadership and Management Team:						8	0.0
145.A.1.a	a. Submit a list of proposed personnel for each assignment.						2	0.0
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM)			8	8	\$ 1,030.56	8	1.0
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)			8	8	\$ 1,030.56	2	4.0
145.A.1.d	d. Progress Reports and Invoicing			32	32	\$ 4,122.24	2	16.0
Totals		0	0	48	48	\$ 6,183.36	22	

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy					
CSJ:	0253-04:146					
County:	Bexar					
Prime Provider:	HNTB					
Sub Provider:	Keville Enterprises Inc.					
	BASIS SERVICES	\$ 147.35	\$ -147.01	\$ 128.82		
		Project Controls Manager	Senior Scheduler	Scheduler	Total Hours	Total Cost
	Task Descriptions					
160	FUNCTION CODE 160 - ROADWAY DESIGN					
160.F.13	13. Design time determination.		0	0	0	
160.F.14	14. Construction Time Determination					
160.F.14.a	a. Prepare a construction time determination using Primavera® P6.		32	260	292	\$ 38,197.52
160.F.14.b	b. Develop road user cost for lane rentals and milestones				0	
					0	
	Totals	0	32	260	292	\$ 38,197.52

WAs Used
 Contract No. 15-6SDP5001

ATTACHMENT E- FEE SCHEDULE

PS Contract No. 5026

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
Sub Provider:	Keville Enterprises Inc.				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$ 120.00	3	\$ 360.00	
Meals (overnight stay required)	day/person	\$ 59.00	3	\$ 177.00	
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)	day	\$ 85.00	3	\$ 255.00	
Rental Car Fuel	day	\$ 20.00	3	\$ 60.00	
Air Travel	Rd Trip/person	\$ 800.00	3	\$ 2,400.00	
Toll Charges	each	\$ 4.00	6	\$ 24.00	
Subtotal Other Direct Expense:				\$ 3,276.00	

ATTACHMENT E-FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy								
CSJ:	0253-04-146								
County:	Bexar								
Prime Provider:	HNTB								
Sub Provider:	K. Freise & Associates, Inc.								
	BASIS SERVICES	\$ 231.86	\$ 217.37	\$ 104.34	\$ 89.85	\$ 59.41	Total Hours		
	Task Descriptions	Senior Project Manager	Task Manager	Design Engineer	Engineer-in-Training	Admin / Clerical		Total Cost	
	FUNCTION CODE 102 – FEASIBILITY STUDIES								
	FUNCTION CODE 120 – SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES								
	FUNCTION CODE 130 – RIGHT-OF-WAY (ROW) DATA								
	FUNCTION CODE 145 – MANAGING CONTRACT	22	0	0	0	11	33	\$ 5,754.43	
	FUNCTION CODE 160 - DRAINAGE DESIGN	315	675	1392	2148	20	4550	\$ 559,187.93	
	FUNCTION CODE 300 – DESIGN VERIFICATION, CHANGES AND ALTERATIONS								
	LABOR TOTALS	337	675	1392	2148	31	4583	\$ 564,942.36	
	SUE UNIT COST ITEMS								
	UNIT COST ITEMS								
	OTHER DIRECT EXPENSES							\$ 4,336.00	
	PROJECT TOTAL	\$ 78,136.82	\$ 146,724.75	\$ 145,241.28	\$ 192,997.80	\$ 1,841.71		\$ 569,278.36	
	% of total Hours	7.35%	14.73%	30.37%	46.87%	0.68%			

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy								
CSJ:	0253-04-146								
County:	Bexar								
Prime Provider:	HNTB								
Sub Provider:	K. Freise & Associates, Inc.								
	BASIS SERVICES	\$ 231.86	\$ 217.37	\$ 104.34	\$ 89.85	\$ 59.41			
		Senior Project Manager	Task Manager	Design Engineer	EIT	Admin / Clerical	Total Hours	Total Cost	
	Task Descriptions								
145	FUNCTION CODE 145 – MANAGING CONTRACTED/DONATED PE								
145.A	A. Program Management and Administration								
145.A.1	1. Leadership and Management Team:								
145.A.1.a	a. Submit a list of proposed personnel for each assignment.						0		
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM) (8 MONTHS)						0		
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)						0		
145.A.1.d	d. Progress Reports and Invoicing	22					11	\$ 5,754.43	
145.A.1.e	e. Overall Project Management, Subconsultant management, internal contract administration, communications, correspondence and quality processes.						0		
	Totals	22	0	0	0	11	33	\$ 5,754.43	

Highway: US 281 - From LP 1604 to Stone Oak Prkwy											
CSJ: 0253-04-146											
County: Bexar											
Prime Provider: HNTB											
Sub Provider: K. Freise & Associates, Inc.											
BASIS SERVICES		\$ 231.86	\$ 217.37	\$ 104.34	\$ 89.85	\$ 59.41					
		Senior Project Manager	Task Manager	Design Engineer	EIT	Admin / Clerical	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item	
	Task Descriptions										
160	FUNCTION CODE 160 - ROADWAY DESIGN										
160.DA92A75:A161	D. Drainage						0				
160.D.1	1. Drainage Report.						0				
160.D.1.a	a. Review existing drainage analyses/reports.		8	12	16		36	\$ 4,428.64			
160.D.1.b	b. Prepare a single comprehensive drainage study and report of the project area.	218	192			20	430	\$ 93,468.72			
160.D.1.b.i	i. Obtain current hydrologic and hydraulic computer models.		2	8			10	\$ 1,269.46			
160.D.1.b.ii	ii. Current models will be updated to existing condition.		8	24	32		64	\$ 7,118.32			
160.D.1.b.iii	iii. Identify all existing drainage outfalls within the limits of the project.		4	12	16		32	\$ 3,559.16			
160.D.1.b.iv	iv. Compute existing condition flows at all outfalls draining into receiving streams.		2	8	24		34	\$ 3,425.86			
160.D.1.b.v	v. Delineate proposed condition drainage area boundaries.		2	8	24		34	\$ 3,425.86			
160.D.1.b.vi	vi. Compute proposed condition flows at all proposed outfalls draining into receiving streams.		2	8	24		34	\$ 3,425.86			
160.D.1.b.vii	vii. Determine hydrologic impacts from the proposed project.	4	2	8	24		38	\$ 4,353.30			
160.D.1.b.viii	viii. Determine hydraulic impacts from the proposed project.	4	16	40	64		124	\$ 14,329.36			
160.D.1.b.ix	ix. Determine mitigation alternatives if the proposed project could have an adverse impact.	4	16	40	64		124	\$ 14,329.36			
160.D.1.b.x	x. Develop three alternative mitigation concepts.	4	16	40	40		100	\$ 12,172.96			
160.D.1.b.xi	xi. Prepare conceptual 100 year sheet flow analysis for project utilizing existing and proposed conditions.		2	8	16		26	\$ 2,707.06			
160.D.1.b.ii.xii	xii. For drainage areas, limit the outfalls into existing storm sewer to existing capacity flows, which will be determined by the ENGINEER. Alternate flow routes, if feasible, will be looked into for relieving storm sewer overload		2	8	16		26	\$ 2,707.06			
160.D.1.b.xiii	xiii. Drainage areas and flows for cross culvert drainage systems will be determined as part of the comprehensive drainage report.		2	16	32		50	\$ 4,979.38			
160.D.1.b.xiv	xiv. Manhole head losses are to be computed as per the STATE's direction.						0				
160.D.1.b.xv	xv. Prepare a report signed, sealed and dated by a registered/licensed engineer	2	8	32	40		82	\$ 9,135.56			

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy													
CSJ: 0253-04-146													
County: Bexar													
Prime Provider: HNTB													
Sub Provider: K. Freise & Associates, Inc.													
BASIS SERVICES		\$ 231.86	\$ 217.37	\$ 104.34	\$ 89.85	\$ 59.41							
Task Descriptions		Senior Project Manager	Task Manager	Design Engineer	EIT	Admin / Clerical	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item			
160.D.2	2. Culvert and Storm Drain Design. Develop design details						0						
160.D.2.a	a. Prepare cross-culvert cross sections.						0						
160.D.2.a.i	i. 4-10x7 RCBC at 352+00		1	4	8		13	\$ 1,353.53	2	6.5			
160.D.2.a.ii	ii. 2- 2x10 box at 359+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.iii	iii. 1 -10x7 box at 371+50		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.iv	iv. 1- 3x3 box at 379+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.v	v. 1- 3x3 box at 390+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.vi	vi. 1- 3x3 box at 395+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.vii	vii. 1-6x3 box at 411+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.viii	viii. 1- 9x5 box at 430+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.ix	ix. 3-6x3 box at 451+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.x	x. 1- 4x3 box at 470+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.xi	xi. 1- 3x3 box at 477+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.xii	xii. 1- 4x3 box at 483+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.xiii	xiii. 1- 6x5 box at 490+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.xiv	xiv. 1- 3x3 box at 507+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.xv	xv. 1- 3x3 box at 513+00		1	4	8		13	\$ 1,353.53	1	13.0			
160.D.2.a.xvi	xvi. 1-3x3 at 529+00												
160.D.2.b	b. Identify areas requiring trench protection, excavation, shoring and de-watering.			4	16		20	\$ 1,854.96					
160.D.2.c	c. Prepare drainage area maps.		8	40	80		128	\$ 13,100.56	10	12.8			
160.D.2.d	d. Prepare plan/profile sheets for storm drain systems and outfall ditches.		30	90	240		360	\$ 37,475.70	40	9.0			
160.D.2.e	e. Prepare cross street and driveway culvert design. Plan/profile sheets will not be prepared. Design will be presented in summary calculation tables.		8	60	120		188	\$ 18,781.36					
160.D.2.f	f. Select standard details from State or District's list of standards for items such as inlets, manholes, junction boxes and end treatment, etc.		4	8	16		28	\$ 3,141.80					
160.D.2.g	g. Prepare details for non-standard drainage details. (Non-Structural)		2	8			10	\$ 1,269.46	4	2.5			
160.D.2.h	h. Prepare drainage details for outlet protection, and outlet structures.		4	16	32		52	\$ 5,414.12	2	26.0			
160.D.2.i	i. Identify pipe strength requirements.		2	8	4		14	\$ 1,628.86					
160.D.2.j	j. Prepare drainage facility quantity summaries.		2	20	40		62	\$ 6,115.54	3	20.7			
160.D.2.k	k. Identify potential utility conflicts and design around them, wherever possible.			16	8		24	\$ 2,388.24					
160.D.2.l	l. Take into consideration pedestrian facilities, utility impacts, driveway grades, retaining wall and concrete traffic barrier drainage impacts.			8	8		16	\$ 1,553.52					
160.D.2.m	m. Identify existing ground elevation profiles at the ROW lines on storm sewer plan and profile sheets.				4		4	\$ 359.40					
160.D.2.n	n. Prepare Hydraulic Data Sheets for any bridge or cross drainage structures		4	12	40		56	\$ 5,715.56	2	28.0			
160.D.2.o	o. Extend, adjust or replace non bridge-class culvert crossing(s) as needed		4	20	40		64	\$ 6,550.28					
160.D.3	3. Temporary Drainage Facilities. Develop temporary drainage facilities	1	8	40	60		109	\$ 11,535.42	4	27.3			

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
Sub Provider:	K. Freise & Associates, Inc.				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$	120.00		\$ -
Meals (overnight stay required)	day/person	\$	59.00		\$ -
Mileage (16 trips to HNTB SA, 16 trips to TxDOT SA, rounded up for site visits):	mile	\$	0.540	5400	\$ 2,916.00
Overnight Mail - letter size	each	\$	56.00	10	\$ 560.00
Overnight Mail - oversized box	each	\$	50.00	5	\$ 250.00
Photocopies B/W (8 1/2" X 11")	each	\$	0.15	1200	\$ 180.00
Photocopies B/W (11" X 17")	each	\$	0.30	100	\$ 30.00
Photocopies Color (11" X 17")	each	\$	2.00	200	\$ 400.00
Subtotal Other Direct Expense:					\$ 4,336.00

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB
 Sub Provider: HVJ Associates, Inc.

	BASIS SERVICES	\$ 228.94	\$ 213.68	\$ -198.41	\$ 128.21	\$ 112.94	\$ 91.58	\$ 100.73	\$ 70.21	\$ 85.84	Total Hours	
Task Descriptions	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	CADD Operator			Total Cost
FUNCTION CODE 102 – FEASIBILITY STUDIES	6	61	98	311	16	1679	600	40	32	2843	\$	295,288.75
FUNCTION CODE 145 – MANAGING CONTRACT	0	43	0	48	0	32	0	0	0	123	\$	18,272.88
LABOR TOTALS	6	104	98	359	16	1711	600	40	32	2966	\$	313,561.63
SUE UNIT COST ITEMS												
UNIT COST ITEMS												\$ 774,075.00
OTHER DIRECT EXPENSES												\$ 444,141.00
PROJECT TOTAL	\$ 1,373.64	\$ 22,222.72	\$ 19,444.18	\$ 46,027.39	\$ 1,807.04	\$ 156,693.38	\$ 60,438.00	\$ 2,808.40	\$ 2,746.88			\$ 1,531,777.63
% of total Hours	0.20%	3.51%	3.30%	12.10%	0.54%	57.69%	20.23%	1.35%	1.08%			

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy													
CSJ: 0253-04-146													
County: Bexar													
Prime Provider: HNTB													
Sub Provider: HVJ Associates, Inc.													
BASIS SERVICES		\$ 228.94	\$ 213.68	\$ 198.41	\$ 128.21	\$ 112.94	\$ 91.58	\$ 100.73	\$ 70.21	\$ 85.84			
Task Descriptions		Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech.	Engineer Tech	CADD Operator	Total Hours	Total Cost	
102	FUNCTION CODE 102 - FEASIBILITY STUDIES												
102.B	B. Geotechnical Borings and Investigations										0		
	1. Geotechnical Services. Includes Bridges, Overhead Sign Structures, Pavement, Subgrade, Retaining Walls and Noise Walls, Embankment And Slope Stability for Cut Slopes Greater Than 10 Feet Vertical										0		
102.B.1											0		
102.B.1.a	a. Follow the procedures and design guidelines stated in the TxDOT <i>Geotechnical Manual</i> .	2	4	2	4		2	2			16	\$ 2,606.88	
102.B.1.b	b. Provide a letter to the State Area Office showing the proposed dates and traffic control standards to be used for the core sample collection.		1		4		2				7	\$ 909.68	
102.B.1.c	c. Provide traffic control as per Texas Manual on Uniform Traffic Control Devices (TMUTCD) and clear all utilities.		2		12		8				22	\$ 2,698.52	
102.B.1.d	d. Develop the subsurface investigation program.	2	4	4	20		8				38	\$ 5,403.08	
102.B.1.e	e. Contact utility companies for location services.		2					8			10	\$ 1,233.20	
102.B.1.f	f. Assess existing geotechnical data provided by the State and utilize as appropriate.		2	4	8						14	\$ 2,246.68	
102.B.1.g	g. Follow Karst Area Drilling Protocols for boring operations within the project limits		4	4	16		32				56	\$ 6,630.28	
102.B.2	2. Determine the location of proposed soil borings.										0		
102.B.2.a	a. Prepare a layout showing proposed boring locations and approximate depths for all project borings.		2	2	8		16			4	32	\$ 3,658.50	
102.B.3	3. Soil Core Hole Drilling.										0		
102.B.3.a	a. Conduct Soil Core-Hole Drilling for pavement, bridges, overhead sign structures, retaining walls and noise walls in accordance with the procedures in the TxDOT <i>Geotechnical Manual</i>		8	8	16		1100	300			1432	\$ 136,305.08	
102.B.3.b	b. Contact utility companies for location services.						8	16			24	\$ 2,344.32	
102.B.3.c	c. Provide a soil survey for pavement design.		2	8	8	16	20				54	\$ 6,678.96	
102.B.3.d	d. Perform soil borings for pavement.						65	24			89	\$ 8,370.22	
102.B.3.e	e. Secure soil samples.						4	4			8	\$ 769.24	
102.B.3.f	f. Coordinate with the TxDOT Project Manager as required.		8	2	4						14	\$ 2,619.10	

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy													
CSJ: 0253-04-146													
County: Bexar													
Prime Provider: HNTB													
Sub Provider: HVJ Associates, Inc.													
BASIS SERVICES		\$ 228.94	\$ 213.68	\$ 198.41	\$ 128.21	\$ 112.94	\$ 91.58	\$ 100.73	\$ 70.21	\$ 85.84			
Task Descriptions		Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Engineer Tech	CADD Operator	Total Hours	Total Cost	
102.B.4	4. Pavement Core Holes										0		
102.B.4.a	a. Perform all geotechnical investigation and testing according to the State Geotechnical Manual and ASTM standards.										0		
102.B.4.b	b. Coordinate with the TxDOT Project manager for Drilling, Sampling and Logging.		2		4		4				10	\$ 1,306.52	
102.B.4.b.i	i. Perform FWD and Locate cores in the field.			4	40		20	20			84	\$ 9,768.24	
102.B.4.b.ii	ii. Obtain approximately 41 pavement core holes.						16	50			66	\$ 6,501.78	
102.B.4.b.iii	iii. Obtain subgrade samples at the bottom of the pavement coring.						20	20			40	\$ 3,846.20	
102.B.4.c	c. Laboratory										0		
102.B.4.c.i	i. Sample the subgrade soils for classification testing purposes.				8		16		40		64	\$ 5,299.36	
102.B.4.c.ii	ii. Perform all geotechnical investigation and testing.		2	4	8		24	20			58	\$ 6,459.20	
102.B.4.d	d. Engineering Reporting										0		
102.B.4.d.i	i. Provide a signed and sealed written Engineering Data report.		4	12	16		24			16	72	\$ 8,858.36	
102.B.4.e	e. Attend the Pavement Design Concept Conference.										0		
102.B.4.f	f. Provide Falling Weight Deflectometer (FWD) data.			8	24		40			12	84	\$ 9,357.60	
102.B.4.e	g. Develop the pavement designs for all project roadway types.										0		
102.B.4.f	h. Backfill the open boreholes with soil cuttings.							16			16	\$ 1,611.68	
102.B.5	5. Bridges and Overhead Sign Bridges										0		
102.B.5.a	a. Perform all geotechnical investigation and testing.		4	4	17		40	40			105	\$ 11,520.33	
102.B.5.b	b. Review all existing data before determining new data requirements.			4	8		8				20	\$ 2,551.96	
102.B.5.c	c. Drill at a minimum two (2) boring at each proposed location of new bridges.										0		
102.B.5.d	d. Drill one (1) boring for each Overhead Sign Bridge foundation.										0		
102.B.5.e	e. Perform scour analysis.										0		
102.B.5.f	f. Conduct Texas Cone Penetrometer (TCP) tests.										0		
102.B.5.g	g. Test soft upper soil layers										0		
102.B.5.h	h. Perform soil and bedrock classification		2	8	24		40				74	\$ 8,754.88	
102.B.5.i	i. Complete soil and bedrock classification and log record for each test hole		2	4	16		32				54	\$ 6,202.92	
102.B.5.j	j. Identify ground water			2	2		2				6	\$ 836.40	
102.B.5.k	k. Conduct coring activities in the shoulders.										0		
102.B.5.l	l. Provide a signed and sealed Engineering data report.		2	4	12	40	80				138	\$ 16,148.32	
102.B.6	6. Retaining Walls and Sound Walls										0		
102.B.6.a	a. Perform all geotechnical investigation and testing.		2	2	4		48	40			96	\$ 9,762.06	
102.B.6.b	b. Obtain soil borings for retaining walls.										0		
102.B.6.c	c. Conduct Texas Cone Penetrometer (TCP) tests.										0		
102.B.6.d	d. Install of piezometers as needed.										0		
102.B.6.e	e. Backfill the open boreholes with soil cuttings.							40			40	\$ 4,029.20	
102.B.6.f	f. Perform retaining wall analyses.										0		
102.B.6.g	g. Develop a signed and sealed written Engineering Report for retaining and sound walls.										0		
Totals		6	61	98	311	16	1679	600	40	32	2843	\$ 295,288.75	

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: HVJ Associates, Inc.														
	BASIS SERVICES	\$ 228.94	\$ 213.68	\$ 198.41	\$ 128.21	\$ 112.94	\$ 91.58	\$ 100.73	\$ 70.21	\$ 85.84				
	Task Descriptions	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Engineer Tech	CADD Operator	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
145	FUNCTION CODE 145 – MANAGING CONTRACT.													
145.A	A. Program Management and Administration													
145.A.1	1. Leadership and Management Team:												8	0.0
145.A.1.a	a. Submit a list of proposed personnel for each assignment.		2		4						6	\$ 940.20	2	3.0
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM)		8		8						16	\$ 2,735.12	8	2.0
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)		32		32		32				96	\$ 13,871.04	2	48.0
145.A.1.d	d. Progress Reports and Invoicing		1		4						5	\$ 726.52	2	2.5
	Totals.	0	43	0	48	0	32	0	0	0	123	\$ 18,272.88	22	

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E: FEE SCHEDULE

Highway: US 281 - From LP.1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB
 Sub Provider: HVJ Associates, Inc.

Unit Costs to be charged to: FC 102

Services To Be Provided	Test Code	Unit	Unit Cost	Quantity	Total Cost
Field Services					
Mobilization/ Demobilization (Truck Rig)		mile		1	\$ -
Mobilization/ Demobilization (ATV Rig)		mile			\$ -
Mobilization Charge (No more than one per project regardless the number of drill holes)		per project	\$ 3,250.00	1	\$ 3,250.00
Falling Weight Deflection (FWD)		per day	\$ 3,800.00	4	\$ 15,200.00
					\$ -
					\$ -
Drilling, Logging and recovering samples (with Texas Cone Penetrometer Test)					
1. Depth (less than or equal to 60 feet)	TEX-132-E	linear ft	\$ 38.00		\$ -
2. Depth (greater than 60 feet)	TEX-132-E	linear ft	\$ 47.00		\$ -
Drilling, logging and recovering samples (without Texas Cone Penetrometer Test)					
1. Depth (less than or equal to 60 feet)		linear ft	\$ 33.00	925	\$ 30,525.00
2. Depth (greater than 60 feet)(Charges apply only for the portion over 60 ft)		linear ft	\$ 44.00		\$ -
Texas Cone Penetration	Tex-132-E	each	\$ 30.00	1,169	\$ 35,070.00
Casing / Hollow Stem Auger Surcharge		linear ft	\$ 20.00	500	\$ 10,000.00
Night Drilling Surcharge		night	\$ 750.00	113	\$ 84,750.00
Pavement Penetration Concrete / AC		each	\$ 175.00	173	\$ 30,275.00
Coring Machine Rental (if required)		day	\$ 250.00	20	\$ 5,000.00
Concrete/AC Patch		patch	\$ 45.00	173	\$ 7,785.00
HQ Rock Coring (Hard Rock-Diamond Bit)		linear ft	\$ 65.00	4,920	\$ 319,800.00
Video Camera for Boreholes		day	\$ 325.00	10	\$ 3,250.00
Standby (Delays due to Karst Features, traffic control, water runs, tremie grouting, etc)		hour	\$ 275.00	318	\$ 87,450.00
Water Meter Application Fee, and Water fees		month	\$ 1,000.00	2	\$ 2,000.00
Cement Grouting Materials		linear ft	\$ 7.00	5,660	\$ 39,620.00

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB
 Sub Provider: HVJ Associates, Inc.

Unit Costs to be charged to: FC 102

Services To Be Provided	Test Code	Unit	Unit Cost	Quantity	Total Cost
Geotechnical Lab Testing Services					
Direct Shear (CD), Sand	ASTM D3080	set of 3	475.00	8	\$ 3,800.00
Direct Shear (CD), Clay	ASTM D3080	set of 3	475.00	8	\$ 3,800.00
Determining Moisture Content in Soils Materials	Tex-103-E	each	\$18.00	165	\$ 2,970.00
Determining Liquid Limits of Soils	Tex-104-E	each	\$38.00	165	\$ 6,270.00
Determining Plastic Limit of Soils	Tex-105-E	each	\$38.00	165	\$ 6,270.00
Particle Size Analysis of Soils	Tex-110-E	each	\$85.00	10	\$ 850.00
Determining the Amount of Material in Soils Finer than the 75 m (No. 200) Sieve	Tex-111-E	each	\$65.00	165	\$ 10,725.00
Determination of Moisture Density Relations of Soils and Base	TEX-113-E	test	\$ 290.00	2	\$ 580.00
Triaxial Compression for Disturbed Soils and Base Materials	Tex-117-E	each	\$2,350.00	2	\$ 4,700.00
Soil-Lime Testing (4 points)	Tex-121-E	each	\$285.00	3	\$ 855.00
Measuring Thickness of Pavement Layer	Tex-140-E	each	\$20.00	60	\$ 1,200.00
Determining Sulfate Content in Soils-Coloimetric Method	Tex-145-E	each	\$150.00	41	\$ 6,150.00
Standard Compaction Proctor		each	\$250.00	2	\$ 500.00
Modified Compaction Proctor		each	\$290.00	2	\$ 580.00
Unconfined Compression - Soil		each	\$55.00	60	\$ 3,300.00
Unconfined Compression - Rock		each	\$75.00	593	\$ 44,475.00
Organic Content		each	\$75.00	41	\$ 3,075.00
Subtotal Unit Cost					\$ 774,075.00

WAs Used
 Contract No. 15-6SDP5001

ATTACHMENT E FEE SCHEDULE

PS Contract No. 5026

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
Sub Provider:	HVJ Associates, Inc.				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$	120.00	249	\$ 29,880.00
Meals (overnight stay required)	day/person	\$	59.00	249	\$ 14,691.00
Mileage	mile	\$	0.540	3000	\$ 1,620.00
Photocopies B/W (8 1/2" X 11")	each	\$	0.15	800	\$ 120.00
Photocopies B/W (11" X 17")	each	\$	0.30	850	\$ 255.00
Photocopies Color (8 1/2" X 11")	each	\$	1.00	200	\$ 200.00
Photocopies Color (11" X 17")	each	\$	2.00	75	\$ 150.00
Plots (B/W on Bond)	square foot	\$	1.75	400	\$ 700.00
Plots (Color on Bond)	square foot	\$	3.00	150	\$ 450.00
Environmental Field Supplies (lathes, stakes,	day	\$	125.00	15	\$ 1,875.00
Law Enforcement/Uniform Officer:	hour/officer	\$	50.00	1104	\$ 55,200.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Large Project (Includes labor,	day	\$	3,000.00	113	\$ 339,000.00
Subtotal Other Direct Expense:					\$ 444,141.00

WAs Used
 Contract No. 15-6SDP5001

ATTACHMENT E- FEE SCHEDULE

PS Contract No. 5026

Highway: US 281 - From LP 1604 to Stone Oak Prkwy						
CSJ: 0253-04-146						
County: Bexar						
Prime Provider: HNTB						
Sub Provider: Lina T. Ramey and Associates, Inc.						
	BASIS SERVICES	\$ 215.73	\$ 143.82	\$ 155.32	Total Hours	
		Task Manager	Project Engineer	Senior Utility Coordinator		
	Task Descriptions					Total Cost
	FUNCTION CODE 130 - RIGHT-OF-WAY (ROW) DATA	120	120	80	320	\$ 55,571.60
	FUNCTION CODE 145 - MANAGING CONTRACT	0	0	0	0	
	LABOR TOTALS	120	120	80	320	\$ 55,571.60
	SUE UNIT COST ITEMS					\$ 161,950.00
	UNIT COST ITEMS					\$ -
	OTHER DIRECT EXPENSES					\$ 15,065.00
	PROJECT TOTAL	\$ 25,887.60	\$ 17,258.40	\$ 12,425.60		\$ 232,586.60
	% of total Hours	37.50%	37.50%	25.00%		

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy						
CSJ:	0253-04-146						
County:	Bexar						
Prime Provider:	HNTB						
Sub Provider:	Lina T. Ramey and Associates, Inc.						
	BASIS SERVICES	\$ 230.11	\$ 215.73	\$ 143.82	\$ 155.32		
		Senior Project Manager	Task Manager	Project Engineer	Sr. Utility Coordinator	Total Hours	Total Cost
	Task Descriptions						
130	FUNCTION CODE 130 – RIGHT-OF-WAY (ROW) DATA						
130.B	B. Utility Coordination, Investigation, and Engineering Services		120	120	80	320	\$ 55,571.60
						0	
						0	
	Totals	0	120	120	80	320	\$ 55,571.60

ATTACHMENT E- FEE SCHEDULE

Subprovider: Lina T. Ramey and Associates, Inc.

Specified Rate Classification	Unit	Specified Contract Rate	Quantity	Total Cost
SUE (Quality Level D) This unit price includes personnel for records research, CADD and mapping D product. Price per linear foot (including all related services)	L.F.	0.50	10000.00	\$ 5,000.00
SUE (Quality Level C) This unit price includes personnel for surveying utility surface features associated with underground utilities. Price per linear foot (including all related services)	L.F.	0.50	10000.00	\$ 5,000.00
SUE (Quality Level B - Utility) This unit price includes personnel designating, engineering, Engineer I EIT	L.F.	1.50	10000.00	\$ 15,000.00
SUE (Quality Level A - Utility) These unit prices include engineering, surveying, CADD, reflect that a Quality Level B Price per Test Hole: 0.00 feet to 3.1 feet Over 3.1 feet to 6.00 feet Over 6.10 feet to 13.00 feet Over 13.10 feet to 20.00 feet Over 20.00 feet	ea ea ea ea Vertical Foot (v.f.)	\$ 945.00 \$ 1,200.00 \$ 1,525.00 \$ 1,975.00 \$ 200.00	20.00 20.00 10.00 10.00 	\$ 18,900.00 \$ 24,000.00 \$ 15,250.00 \$ 19,750.00 \$ -
SUE Mobilization/Demobilization These costs are intended to be a mobilizing/demobilizing Vacuum excavation truck	mile	\$ 5.00	200.00	\$ 1,000.00
The unit costs shown include labor, Any staffing or other direct Documentation of hours worked not required.				

Note: When the above specified rate prices are not utilized, the following appropriate hourly rates will apply.

Subsurface Utility Engineering				
One (1) Designating Person with	hour	\$ 140.00	120.00	\$ 16,800.00
Two (2) Designating Person with	hour	\$ 165.00	250.00	\$ 41,250.00
				\$ 161,950.00

WAs Used
 Contract No. 15-6SDP5001

ATTACHMENT E- FEE SCHEDULE

PS Contract No. 5026

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB
 Sub Provider: Lina T. Ramey and Associates, Inc.

Unit Costs to be charged to: **FC 130**

OTHER DIRECT EXPENSE	UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$ 120.00	75	\$ 9,000.00
Meals (overnight stay required)	day/person	\$ 59.00	75	\$ 4,425.00
Mileage	mile	\$ 0.540		\$ -
Air Travel	Rd Trip/person	\$ 800.00	2	\$ 1,600.00
Parking	day	\$ 20.00	2	\$ 40.00
Subtotal Other Direct Expense:				\$ 15,065.00

WAs Used
 Contract No. 15-6SDP5001

ATTACHMENT E- FEE SCHEDULE

PS Contract No. 5026

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: Poznecki-Camarillo, Inc.														
	BASIS SERVICES	\$ 200.15	\$ 169.36	\$ 147.80	\$ 123.17	\$ 120.09	\$ 92.38	\$ 110.85	\$ 95.46	\$ 80.06	\$ 61.58	\$ 126.25	Total Hours	
	Task Descriptions	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-In-Training	Senior Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager		Total Cost
	FUNCTION CODE 145 - MANAGING CONTRACT	36	136	64	0	0	0	0	0	0	40	0	276	\$ 42,160.76
	FUNCTION CODE 160 - ROADWAY DESIGN	34	284	406	196	623	280	258	904	80	798	108	3971	\$ 423,809.71
	LABOR TOTALS	70	420	470	196	623	280	258	904	80	838	108	4247	\$ 465,970.47
	SUE UNIT COST ITEMS													
	UNIT COST ITEMS													
	OTHER DIRECT EXPENSES													\$ 748.00
	PROJECT TOTAL													\$ 466,718.47
	% of total Hours	1.65%	9.89%	11.07%	4.62%	14.67%	6.59%	6.07%	21.29%	1.88%	19.73%	2.54%		

Highway: US 281 - From LP 1604 to Stone Oak Prkwy														
CSJ: 0253-04-146														
County: Bexar														
Prime Provider: HNTB														
Sub Provider: Poznecki-Camarillo, Inc.														
	BASIS SERVICES	\$ 200.15	\$ 169.36	\$ 147.80	\$ 123.17	\$ 120.09	\$ 92.38	\$ 110.85	\$ 95.46	\$ 80.06	\$ 61.58			
	Task Descriptions	Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	Total Hours	Total Cost	
145	FUNCTION CODE 145 – MANAGING CONTRACT													
145.A	A. Program Management and Administration													
145.A.1	1. Leadership and Management Team:													
145.A.1.a	a. Submit a list of proposed personnel for each assignment.	16	16									32	\$ 5,912.16	
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM)		16									16	\$ 2,709.76	
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)		64	64								128	\$ 20,298.24	
145.A.1.d	d. Progress Reports and Invoicing	20	40								40	100	\$ 13,240.60	
	Totals	36	136	64	0	0	0	0	0	0	40	276	\$ 42,160.76	

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB
 Sub Provider: Poznecki-Camarillo, Inc.

BASIS SERVICES		\$ 200.15	\$ 169.36	\$ 147.80	\$ 123.17	\$ 120.09	\$ 92.38	\$ 110.85	\$ 95.46	\$ 80.06	\$ 61.58	\$ 126.25				
Task Descriptions		Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Total Hours	Total Cost	Total Sheets or # of items	Hours per Sheet or item
160	FUNCTION CODE 160 - ROADWAY DESIGN															
160.A	A. Field Surveying															
160.A.1	1. Design Survey															
160.A.1.d	d. Verify the benchmark coordinates and establish additional horizontal and vertical control for the project.												0			
160.A.1.d.i	i. Determine Project Baseline												0			
160.A.1.d.ii	ii. Establish Horizontal and Vertical Control (For LIDAR)												0			
160.F	F. Miscellaneous (Roadway)												0			
160.F.2	2. Traffic Control Plan, Detours, Sequence of Construction. Prepare Traffic Control Plans (TCP) for the project.												0			
160.F.2.a	a. Provide a written narrative of the construction sequencing and work activities per phase.		4	20		20			16				60	\$ 7,562.60	2	30.0
160.F.2.b	b. Coordinate with the State in scheduling a Traffic Control Workshop and submittal of the TCP for approval by the District Safety Review Team (DSRT).	32	32										64	\$ 11,824.32		
160.F.2.c	c. Develop each TCP to provide continuous, safe access to each adjacent property during all phases of construction and to preserve existing access.												0			
	Construction Phasing Layouts - US 1604				4	8		16	32				60	\$ 6,281.72	3	20.0
	Project Limits Traffic Control Schematic - LP 1604				4	8		16	32				60	\$ 6,281.72	3	20.0
	Horizontal Alignment Data Sheets				32	24		40	64				160	\$ 17,367.04	6	26.7
160.F.2.d	d. Design temporary drainage to replace existing drainage disturbed by construction activities or to drain detour pavement.				16	32			32				80	\$ 8,868.32	8	10.0
160.F.2.e	e. Prepare each TCP to include interim signing for every phase of construction.												0			
	Traffic Control Plan - LP 1604												0			
	Traffic Control Plan - Phase 1 Stage 1			2	24	32	32				160		250	\$ 19,903.52	9	27.8
	Traffic Control Plan - Phase 1 Typical Sections				4	4		8				36	52	\$ 6,404.84	2	26.0
	Traffic Control Plan - Phase 2 Stage 2				8	14	24				60		106	\$ 8,578.54	4	26.5
	Traffic Control Plan - Phase 2 Typical Sections				2	8		8				8	26	\$ 3,103.86	1	26.0
	Traffic Control Plan - Phase 2 Stage 2A				16	24		24			150		214	\$ 16,750.28	8	26.8
	Traffic Control Plan - US 281												0			
	Traffic Control Plan - Phase 1 Stage 1			2	6	12	20	20			90		150	\$ 12,082.50	6	25.0
	Traffic Control Plan - Phase 1 Stage 2				4	6		8			32		50	\$ 4,070.58	2	25.0
	Traffic Control Plan - Phase 1 Stage 3				2	3		4			16		25	\$ 2,035.29	1	25.0
	Traffic Control Plan - Phase 1 Stage 4				2	3		4			16		25	\$ 2,035.29	1	25.0
	Traffic Control Plan - Phase 1 Typical Sections				4	6		14				32	56	\$ 6,805.12	2	28.0
	Traffic Control Plan - Phase 2 Stage 1				6	15	22	20			80		143	\$ 11,716.13	6	23.8
	Traffic Control Plan - Phase 2 Stage 2				4	6		14			32		56	\$ 4,735.68	2	28.0
	Traffic Control Plan - Phase 2 Stage 3				2	3		7			16		28	\$ 2,367.84	1	28.0
	Traffic Control Plan - Phase 2 Stage 4				2	3		7			16		28	\$ 2,367.84	1	28.0
	Traffic Control Plan - Phase 2 Typical Sections				4	6		14				32	56	\$ 6,805.12	2	28.0
	Traffic Control Plan - Phase 3 Stage 3				4	6		14			32		56	\$ 4,735.68	2	28.0
	Traffic Control Plan - Phase 3 Stage 4				6	15	22	20			98		161	\$ 12,824.57	6	26.8
160.F.2.f	f. Prepare exhibits for and attend meetings with the public, as requested by the State.		16	16									48	\$ 6,601.92		
160.F.2.g	g. Identify and coordinate with all utility companies for relocations required.			16	16								32	\$ 4,335.52		

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB
 Sub Provider: Poznecki-Camarillo, Inc.

BASIS SERVICES		\$ 200.15	\$ 169.36	\$ 147.80	\$ 123.17	\$ 120.09	\$ 92.38	\$ 110.85	\$ 95.46	\$ 80.06	\$ 61.58	\$ 126.25				
Task Descriptions		Senior Project Manager	Task Manager	Senior Engineer	Project Engineer	Design Engineer	EIT	Senior Engineer Tech	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
160.F.2.h	h. 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.) Beam Erection Sequence Layout	2	8	24					80				114	\$ 12,939.18	4	28.5
	Detour Diagrams		8	30		65			80	80			263	\$ 27,636.33	10	26.3
160.F.2.i	i. 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.												0			
160.F.5	5. Storm Water Pollution Prevention Plans (SW3P). Develop SW3P												0			
	US 281 - SW3P Phase 1		12	20		32	20		60				144	\$ 16,406.40	6	24.0
	US 281 - SW3P Phase 2		12	20		32	20		60				144	\$ 16,406.40	6	24.0
	US 281 - SW3P Phase 3		12	20		32	20		60				144	\$ 16,406.40	6	24.0
	LP 1604 - SW3P Phase 1		18	30		50	30		90				218	\$ 24,849.78	9	24.2
	LP 1604 - SW3P Phase 2		18	30		50	30		90				218	\$ 24,849.78	9	24.2
160.F.6	6. Compute and Tabulate Quantities. Provide the summaries and quantities within all formal submittals.		24	40		40	40		160				304	\$ 33,749.04		
160.F.6.a	a. Summary - Traffic Control		8	16	12	12			16				64	\$ 8,166.16	2	32.0
160.F.5.m	m. Summary - SW3P		8	16	12	12			16				64	\$ 8,166.16	2	32.0
160.F.17	17. Progress/Coordination Meetings.												0			
160.F.17.a	a. Attend periodic progress meetings with the as required to monitor the development of the project.		80	80		40							200	\$ 30,176.40		
160.F.17.a.iii	iii. Traffic Control Plan Preliminary District Safety Review Team (DSRT) Concept Review (1 each)		16	16									32	\$ 5,074.56	1	32.0
160.F.17.a.iv	iv. Traffic Control Plan DSRT Final Review (1 each)		8	8									16	\$ 2,537.28	1	16.0
													0			
Totals		34	284	406	196	623	280	258	904	80	798	108	3971	\$ 423,809.71	134	

WAs Used
 Contract No. 15-6SDP5001

ATTACHMENT E- FEE SCHEDULE

PS Contract No. 5026

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145		
CSJ:	0253-04-146			
County:	Bexar			
Prime Provider:	HNTB			
Sub Provider:	Poznecki-Camarillo, Inc.			
OTHER DIRECT EXPENSE	UNIT	UNIT COST	QUANTITY	COST
Mileage	mile	\$ 0.540	200	\$ 108.00
Courier Services (Deliveries)	each	\$ 4.00	10	\$ 40.00
Photocopies B/W (11" X 17")	each	\$ 0.30	2000	\$ 600.00
Subtotal Other Direct Expense:				\$ 748.00

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: RODS Surveying, Inc.											
	BASIS SERVICES	\$ 132.45	\$ 99.34	\$ 82.78	\$ 55.19	\$ 137.97	\$ 99.34	\$ 140.73	\$ 96.58	Total Hours	
Task Descriptions	Task Manager	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Survey Technician	2- person survey crew	1- man survey crew			Total Cost
FUNCTION CODE 102 - FEASIBILITY STUDIES	0	0	0	0	0	0	0	0	0	0	
FUNCTION CODE 130 - RIGHT-OF-WAY (ROW) DATA	4	42	72	0	66	88	0	0	0	272	\$ 28,510.18
FUNCTION CODE 145 - MANAGING CONTRACT	0	0	0	0	0	0	0	0	0	0	
FUNCTION CODE 160 - ROADWAY DESIGN	22	37	214	16	41	84	492	168	1074		\$ 124,653.37
LABOR TOTALS	26	79	286	16	107	172	492	168	1346		\$ 153,163.55
SUE UNIT COST ITEMS											
UNIT COST ITEMS											\$ -
OTHER DIRECT EXPENSES											\$ 35,972.00
PROJECT TOTAL											\$ 189,135.55
	% of total Hours	1.93%	5.87%	21.25%	1.19%	7.95%	12.78%	36.55%	12.48%		

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: RODS Surveying, Inc.													
BASIS SERVICES		\$ 132.45	\$ 99.34	\$ 82.78	\$ 55.19	\$ 137.97	\$ 99.34	\$ 140.73	\$ 96.58				
Task Descriptions		Task Manager	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Survey Technician	2- person survey crew	1- man survey crew	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
130	FUNCTION CODE 130 – RIGHT-OF-WAY (ROW) DATA												
130.A	A. ROW: Assume support efforts for a maximum of six parcels												
130.A.1	1. ROW Acquisition.												
130.A.1.a	a. Provide fact witness testimony for condemnation proceedings									0			
130.A.1.b	b. Develop and maintain system to track the status of individual parcels and utility conflicts.									0			
130.C	C. ROW Surveying for a maximum of two parcels									0			
130.C.1	1. Additional ROW.									0			
130.C.1.a	a. Review and evaluate the existing right-of-way maps					4				4	\$ 551.88	3	1.3
130.C.1.b	b. Coordinate and evaluate access management within the project limits									0			
130.C.1.c	c. Prepare an abstract map covering any previously unidentified easements or ROW		10	16		16	42			84	\$ 8,697.68	3	28.0
130.C.1.d	d. Prepare a preliminary right-of-way covering any previously unidentified easements or ROW		10	16		16				42	\$ 4,525.40	3	14.0
130.C.1.e	e. Prepare a completed right-of-way map covering any previously unidentified easements or ROW		10	16		8				34	\$ 3,421.64		
130.C.1.f	f. Prepare property descriptions, parcel plots and area calculation sheets describing parcels of land to be acquired. (based on 6 parcels)		8	24		16	24			72	\$ 7,373.12		
130.C.1.f.i	i. Monument the proposed right-of-way lines					6	6			12	\$ 1,423.86		
130.C.1.f.ii	ii. Monument the existing right-of-way lines	4					6			10	\$ 1,125.84		
130.C.1.g	g. Provide to the STATE a copy of all instruments of record acquired pursuant to this Contract.						6			6	\$ 596.04		
130.C.1.h	h. Provide the computer graphics files of the right-of-way map and field note descriptions						4			4	\$ 397.36		
130.C.1.i	i. Provide computer disks of scanned instruments of record (deeds).		4							4	\$ 397.36		
Totals		4	42	72	0	66	88	0	0	272	\$ 28,510.18	9	

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy												
CSJ: 0253-04-146												
County: Bexar												
Prime Provider: HNTB												
Sub Provider: RODS Surveying, Inc.												
	BASIS SERVICES	\$ 132.45	\$ 99.34	\$ 82.78	\$ 55.19	\$ 137.97	\$ 99.34	\$ 140.73	\$ 96.58			
		Task Manager	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Survey Technician	2-person survey crew	1-man survey crew		Total Hours	Total Cost
	Task Descriptions											
160	FUNCTION CODE 160 - ROADWAY DESIGN											
160.A	A. Field Surveying assuming LIDAR collection for entire ROW from Loop 1604 to north of Marshall, to supplement data provided by the STATE. No survey outside of ROW is anticipated											
160.A.1	1. Design Survey											
	i. Determine Project Baseline; Stake with IR at PC, PT, Pis, and at 1500' even stations							40	12		52	\$ 6,788.16
	ii. Establish Horizontal and Vertical Control Monuments every 1000'	4					4	40	12	60	\$ 7,715.32	
	ii.a Survey H&V control with GPS RTK; run levels though points.	8				2	8	60	20	98	\$ 12,505.66	
	iii. Prepare H&V Control index and layout sheets, & 8.5x11" data sheets	10	5	60		3				78	\$ 7,201.91	
											0	
											0	
	iv. Perform datum ties as required.					1	2	8	3		14	\$ 1,752.23
	v. Profile and cross section intersecting streets and driveways (to 50 feet outside ROW for driveways, and 200 feet for intersecting streets and 500 feet for intersecting streets greater than two lanes wide) for tie into project in obstructed view areas.			12				5	30	12	59	\$ 6,870.92
	vi. Secure right-of-entry (short of litigation), as needed for the project, not commit acts which will result in damages to private property and the ENGINEER will make every effort to comply with the wishes and address the concerns of private property owners.				16	2	8				26	\$ 1,953.70
	vii. Tie to existing underground and overhead utilities (location, elevation, size and direction), and as marked by locators in response to Texas811 one-call locate request.			4		1	2	20	7		34	\$ 4,158.43
	viii. ROW staking for additional field topography related to design work						4	10	3		17	\$ 2,094.40
	ix. Determine any changes in topography from outdated maps due to development, erosion, etc.			8		1	4	10	3		26	\$ 2,894.61
	x. Determine type of existing material, existing pavements, etc.			4				10	3		17	\$ 2,028.16
	xi. Obtain profiles of existing drainage facilities.			5			2	15	5		27	\$ 3,206.43
	xii. Obtain measurement of hydraulic opening under existing bridges.			2			1	5	2		10	\$ 1,161.71
	xiii. Obtain top of manhole and flowline elevations, type and size, etc. of manholes, inlets, and valves of utilities.			8				5	30	10	53	\$ 6,346.64
	xiv. Provide temporary signs, traffic control, flags, safety equipment, etc. and obtain necessary permits.					1		5	2		8	\$ 1,034.78
	xv. Obtain ties to existing bridges or culverts that may conflict with new construction.			3			2	6	2		13	\$ 1,484.56
	xvi. Verify Digital Terrain Model (DTM) (cross sections at panel points) and planimetric mapping (DGN). Obtain additional existing ground cross sections as necessary to supplement the DTM files. Obtain cross sections at the center panel points to verify the DTM.		4			1	3	20	7		35	\$ 4,324.01
	xvii. Obtain line (PGL) and the edges of slab at bent location.							20	7		27	\$ 3,490.66

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy											
CSJ: 0253-04-146											
County: Bexar											
Prime Provider: HNTB											
Sub Provider: RODS Surveying, Inc.											
BASIS SERVICES		\$ 132.45	\$ 99.34	\$ 82.78	\$ 55.19	\$ 137.97	\$ 99.34	\$ 140.73	\$ 96.58		
Task Descriptions		Task Manager	Senior CADD Operator	CADD Operator	Admin / Clerical	RPLS - Project Manager	Senior Survey Technician	2-person survey crew	1-man survey crew	Total Hours	Total Cost
	xviii. Tie down soil boring locations by station, offset and surface elevation. (184 estimated)			20			10	80	30	140	\$ 16,804.80
	xix. The ENGINEER's Surveyor using wetlands delineation information provided by the STATE shall stake and fence the areas containing wetlands. The ENGINEER's Surveyor is to provide information back to the ENGINEER in an electronic file to be incorporated onto the Plan and Profile (P&P) sheets. This staking and fencing at the wetland areas shall be handled under separate agreement.			8			4	20	7	39	\$ 4,550.26
	xx. The ENGINEER's Surveyor shall control traffic in and near surveying operations adequately to comply with the latest edition of the TMUTCD. In the event field personnel must divert traffic or close traveled lanes, a Traffic Control Plan shall be prepared by the ENGINEER's Surveyor and approved by the STATE prior to commencement of field work. A copy of the approved plans shall be in the possession of field personnel on the job site at all times and shall be made available to STATE personnel upon request.					1		3	1	5	\$ 656.74
	xxi. Recover existing ROW monumentation for re-establishment of existing ROW.					10	20	60	20	110	\$ 13,741.90
160.B	B. Digital Planimetric Mapping (DGN) and Digital Terrain Modeling (DTM).									0	
160.B.1	1. Update DGN files as necessary		8	80		10				98	\$ 8,796.82
160.B.2	2. Update DTM files as necessary		20			8				28	\$ 3,090.56
	Totals		22	37	214	16	41	84	492	168	1074 \$ 124,653.37

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US-281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
Sub Provider:	RODS Surveying, Inc.				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$	120.00		\$ -
Meals (overnight stay required)	day/person	\$	59.00		\$ -
Mileage	mile	\$	0.540	1800	\$ 972.00
Certified Deed Copies (Abstacting)	sheet	\$	250.00	104	\$ 26,000.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Small Project (Includes labor,	day	\$	3,000.00	3	\$ 9,000.00
Subtotal Other Direct Expense:					\$ 35,972.00

WAs Used
 Contract No.: 15-6SDP5001

ATTACHMENT E- FEE SCHEDULE

PS Contract No. 5026

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy					
CSJ:	0253-04-146					
County:	Bexar					
Prime Provider:	HNTB					
Sub Provider:	Structural Engineering Associates, Inc.					
	BASIS SERVICES	\$ 201.40	\$ 83.44	\$ 80.56	\$ 157.52	Total Hours
	Task Descriptions	Senior Engineer	Engineer-In-Training	CADD Operator	Structural Engineer	Total Cost
	FUNCTION CODE 145 – MANAGING CONTRACT	452	24	80	352	908 \$ 154,927.20
	FUNCTION CODE 160 - ROADWAY DESIGN	633	3109	3913	6434	14089 \$ 1,715,616.12
	LABOR TOTALS	1085	3133	3993	6786	14997 \$ 1,870,543.32
	SUE UNIT COST ITEMS					
	UNIT COST ITEMS					
	OTHER DIRECT EXPENSES					\$ 3,290.00
	PROJECT TOTAL	\$ 218,519.00	\$ 261,417.52	\$ 321,676.08	\$ 1,068,930.72	\$ 1,873,833.32
	% of total Hours	7.23%	20.89%	26.63%	45.25%	

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy						
CSJ:	0253-04-146						
County:	Bexar						
Prime Provider:	HNTB						
Sub Provider:	Structural Engineering Associates, Inc..						
	BASIS SERVICES	\$ 201.40	\$ 83.44	\$ 80.56	\$ 157.52		
		Senior Engineer	EIT	CADD Operator	Structural Engineer	Total Hours	Total Cost
	Task Descriptions						
145	FUNCTION CODE 145 - MANAGING CONTRACTED/DONATED PE						
145.A	A. Program Management and Administration						
145.A.1	1. Leadership and Management Team:						
145.A.1.a	a. Submit a list of proposed personnel for each assignment.						
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM)						
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)		132		132	264	\$ 47,377.44
145.A.1.d	d. Progress Reports and Invoicing		80			80	\$ 16,112.00
145.A.1.e	e. Coordination		240		120	360	\$ 67,238.40
145.A.1.f	f. Submittals (30, 60, 90, 100%)			60	60	120	\$ 14,284.80
145.A.1.g	g. Respond to Comments			24	20	40	\$ 9,914.56
	Totals		452	24	80	352	\$ 154,927.20

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: Sructural Engineering Associates, Inc.									
BASIS SERVICES		\$ 201.40	\$ 83.44	\$ 80.56	\$ 157.52				
Task Descriptions		Senior Engineer	EIT	CADD Operator	Structural Engineer	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
160	FUNCTION CODE 160 - ROADWAY DESIGN								
160.H	H. Bridge Design								
160.H.1	1. Bridge Layouts.								
160.H.1.a	a. Prepare the bridge layout plan sheets for the following structures:								
160.H.1.a.i	i. LP 1604/US 281 direct connectors								
160.H.1.a.i	DCWBND								
160.H.1.a.i	BRIDGE LAYOUT	22	132	198	264	616	\$ 72,981.04	11	
160.H.1.a.i	TYPICAL SECTIONS	4	8	16	20	48	\$ 5,912.48	2	
160.H.1.a.i	BORING LOGS		6	12	18	36	\$ 4,302.72	6	
160.H.1.a.i	ESTIMATED QUANTITIES		12	12	24	48	\$ 5,748.48	1	
160.H.1.a.i	BEARING SEAT ELEVATIONS		16	18	32	66	\$ 7,825.76	3	22.0
160.H.1.a.i	FOUNDATION LAYOUT	12	36	56	76	180	\$ 21,903.52	6	30.0
160.H.1.a.i	FOOTING DETAILS	24	96	120	192	432	\$ 52,754.88	12	36.0
160.H.1.a.i	BENT INFORMATION		30	60	70	160	\$ 18,363.20		
160.H.1.a.i	COLUMN DETAILS	28	90	96	120	334	\$ 39,784.96	10	33.4
160.H.1.a.i	ABUTMENT PLAN & ELEV	2	10	16	20	48	\$ 5,676.56	1	48.0
160.H.1.a.i	ABUTMENT DETAILS	2	10	16	20	48	\$ 5,676.56	1	48.0
160.H.1.a.i	ANALYZE EXISTING BENT AT SE END OF CONNECTOR	2	16		32	50	\$ 6,778.48	0	
160.H.1.a.i	INTERIOR BENT (SINGLE AND MULTI-COLUMN) - 12 TYPES	72	286	376	696	1430	\$ 178,289.12	36	39.7
160.H.1.a.i	INTERIOR BENT STRADDLE - 5 TYPES	25	180	200	260	665	\$ 77,121.40	15	44.3
160.H.1.a.i	INTERIOR BENT ECCENTRIC - 2 TYPES	12	60	84	132	288	\$ 34,982.88	6	48.0
160.H.1.a.i	FRAMING PLAN - PRESTR CONC - 12 UNITS		96	120	216	432	\$ 51,701.76	12	
160.H.1.a.i	FRAMING PLAN - STEEL	4	16	16	22	58	\$ 6,895.04	1	58.0
160.H.1.a.i	SLAB DETAILS - 13 UNITS	52	208	312	468	1040	\$ 126,682.40	26	40.0
160.H.1.a.i	IBND		48	8	104	160	\$ 21,031.68	2	80.0
160.H.1.a.i	PLATE GIRDER UNIT	16	48	80	120	264	\$ 32,574.72	6	44.0
160.H.1.a.i	STEEL UNIT BEARING DETAILS	4	16	12	16	48	\$ 5,627.68	1	48.0
160.H.1.a.i	MISC DETAILS (GORE DETAILS & SLAB CONTOURS)	4	16	20	40	80	\$ 10,052.64	2	40.0

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy									
CSJ: 0253-04-146									
County: Bexar									
Prime Provider: HNTB									
Sub Provider: Sructural Engineering Associates, Inc.									
BASIS SERVICES		\$ 201.40	\$ 83.44	\$ 80.56	\$ 157.52				
		Senior Engineer	EIT	CADD Operator	Structural Engineer	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
	Task Descriptions								
160.H.1.a.i	DCEBNB								
160.H.1.a.i	BRIDGE LAYOUT	6	36	54	72	168	\$ 19,903.92	3	56.0
160.H.1.a.i	TYPICAL SECTIONS	2	4	8	10	24	\$ 2,956.24	1	24.0
160.H.1.a.i	BORING LOGS		2	4	6	12	\$ 1,434.24	2	6.0
160.H.1.a.i	ESTIMATED QUANTITIES		6	8	14	28	\$ 3,350.40	1	
160.H.1.a.i	BEARING SEAT ELEVATIONS		8	8	16	32	\$ 3,832.32	1	32.0
160.H.1.a.i	FOUNDATION LAYOUT	4	12	18	26	60	\$ 7,352.48	2	30.0
160.H.1.a.i	FOOTING DETAILS - 5 TYPES	24	96	120	192	432	\$ 52,754.88	12	36.0
160.H.1.a.i	BENT INFORMATION		6	12	14	32	\$ 3,672.64		
160.H.1.a.i	COLUMN DETAILS	8	28	30	48	114	\$ 13,925.28	3	38.0
160.H.1.a.i	ANALYZE EXISTING BENT AT SW END OF CONNECTOR	2	16		32	50	\$ 6,778.48	0	
160.H.1.a.i	INTERIOR BENT (SINGLE COLUMN) - 3 TYPES	18	76	98	98	290	\$ 33,298.48	6	48.3
160.H.1.a.i	INTERIOR BENT ECCENTRIC - 3 TYPES	16	80	112	176	384	\$ 46,643.84	9	
160.H.1.a.i	FRAMING PLAN	6	24	18	36	84	\$ 10,331.76	2	42.0
160.H.1.a.i	FRAMING PLAN - STEEL	8	24	36	48	116	\$ 14,074.88	2	
160.H.1.a.i	SLAB DETAILS	16	86	70	140	312	\$ 38,090.24	8	39.0
160.H.1.a.i	IBND		18	6	24	48	\$ 5,765.76	1	48.0
160.H.1.a.i	CONTINUOUS PLATE GIRDER UNIT (TWO- TWO CONTINUOUS STEEL PLATE GIR	26	160	120	320	626	\$ 78,660.40	12	52.2
160.H.1.a.i	STEEL UNIT BEARING DETAILS	4	24	16	32	76	\$ 9,137.76	2	38.0
160.H.1.a.vi	US281 to Via Park-N-Ride					0			
160.H.1.a.vi	BRIDGE LAYOUT	10	50	70	110	240	\$ 29,152.40	5	48.0
160.H.1.a.vi	TYPICAL SECTIONS	2	8	12	20	42	\$ 5,187.44	1	42.0
160.H.1.a.vi	BORING LOGS		3	6	9	18	\$ 2,151.36	3	
160.H.1.a.vi	EST QUANTITIES AND BRG SEAT ELEV		8	12	20	40	\$ 4,784.64	1	
160.H.1.a.vi	BENT INFORMATION		11	21	25	57	\$ 6,547.60		#DIV/0!
160.H.1.a.vi	COLUMN DETAILS	8	40	48	64	160	\$ 18,896.96	4	40.0
160.H.1.a.vi	ABUTMENT PLAN & ELEV	4	16	24	32	76	\$ 9,114.72	2	38.0
160.H.1.a.vi	ABUTMENT DETAILS	4	16	24	32	76	\$ 9,114.72	2	38.0
160.H.1.a.vi	INTERIOR BENT	28	120	168	260	576	\$ 70,141.28	14	
160.H.1.a.vi	FRAMING PLAN		40	50	90	180	\$ 21,542.40	5	36.0
160.H.1.a.vi	SLAB DETAILS	20	80	120	180	400	\$ 48,724.00	10	40.0
160.H.1.a.vi	IBND		18	8	34	60	\$ 7,502.08	1	60.0

Highway: US 281 - From LP 1604 to Stone Oak Prkwy CSJ: 0253-04-146 County: Bexar Prime Provider: HNTB Sub Provider: Sructural Engineering Associates, Inc.									
BASIS SERVICES		\$ 201.40	\$ 83.44	\$ 80.56	\$ 157.52				
Task Descriptions		Senior Engineer	EIT	CADD Operator	Structural Engineer	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
160.H.1.a.vi	VIA PARK								
160.H.1.a.vi	BRIDGE LAYOUT	8	10	14	22	54	\$ 7,038.88	1	54.0
160.H.1.a.vi	EST QUANTITIES AND BRG SEAT ELEV		8	8	16	32	\$ 3,832.32	1	
160.H.1.a.vi	BENT INFORMATION		6	12	14	32	\$ 3,672.64		
160.H.1.a.vi	COLUMN DETAILS		20	24	32	76	\$ 8,642.88	2	38.0
160.H.1.a.vi	INTERIOR BENT	16	64	107	253	440	\$ 57,035.04	9	48.9
160.H.1.a.vi	FRAMING PLAN		10	12	22	44	\$ 5,266.56	1	44.0
160.H.1.a.vi	FRAMING PLAN - STEEL	4	16	16	22	58	\$ 6,895.04	1	
160.H.1.a.vi	SLAB DETAILS	4	20	32	40	96	\$ 11,353.12	2	48.0
160.H.1.a.vi	IBND		8	2	20	30	\$ 3,979.04	1	30.0
160.H.1.a.vi	PLATE GIRDER UNIT	16	48	80	120	264	\$ 32,574.72	6	44.0
160.H.1.a.vi	STEEL UNIT BEARING DETAILS	4	16	12	16	48	\$ 5,627.68	1	48.0
160.H.1.a.vii	Stone Oak Pkwy (SB)								
160.H.1.a.vii	BRIDGE LAYOUT	6	10	16	22	54	\$ 6,797.20	1	54.0
160.H.1.a.vii	BORING LOGS		2	4	6	12	\$ 1,434.24	2	
160.H.1.a.vii	EST QUANTITIES AND BRG SEAT ELEV		8	8	16	32	\$ 3,832.32	1	
160.H.1.a.vii	BENT INFORMATION		10	18	24	52	\$ 6,064.96		
160.H.1.a.vii	COLUMN DETAILS		20	24	32	76	\$ 8,642.88	2	38.0
160.H.1.a.vii	ABUTMENT PLAN & ELEV	4	16	24	32	76	\$ 9,114.72	2	38.0
160.H.1.a.vii	ABUTMENT DETAILS	4	16	24	32	76	\$ 9,114.72	2	38.0
160.H.1.a.vii	INTERIOR BENT	8	34	40	80	162	\$ 20,272.16	4	
160.H.1.a.vii	FRAMING PLAN	4	8	10	20	42	\$ 5,429.12	1	42.0
160.H.1.a.vii	SLAB DETAILS	8	16	24	40	88	\$ 11,180.48	2	44.0
160.H.1.a.vii	IBND		12	4	28	44	\$ 5,734.08	1	44.0
160.H.1.a.vii	Stone Oak Pkwy (NB)								
160.H.1.a.vii	EST QUANTITIES AND BRG SEAT ELEV		8	8	16	32	\$ 3,832.32	1	
160.H.1.a.vii	BENT INFORMATION		11	21	25	57	\$ 6,547.60		
160.H.1.a.vii	COLUMN DETAILS		20	24	32	76	\$ 8,642.88	2	38.0
160.H.1.a.vii	ABUTMENT PLAN & ELEV	4	16	24	32	76	\$ 9,114.72	2	38.0
160.H.1.a.vii	ABUTMENT DETAILS	4	16	24	32	76	\$ 9,114.72	2	38.0
160.H.1.a.vii	INTERIOR BENT	10	46	62	94	212	\$ 25,653.84	5	
160.H.1.a.vii	FRAMING PLAN	6	8	10	20	44	\$ 5,831.92	1	44.0
160.H.1.a.vii	SLAB DETAILS	10	16	24	40	90	\$ 11,583.28	2	45.0
160.H.1.a.vii	IBND		12	4	28	44	\$ 5,734.08	1	44.0
Totals		633	3109	3913	6434	14089	\$ 1,715,616.12	342	

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
Sub Provider:	Structural Engineering Associates, Inc.				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$	120.00		
Meals (overnight stay required)	day/person	\$	59.00		
Mileage	mile	\$	0.540	1000	\$ 540.00
Overnight Mail - letter size	each	\$	56.00	10	\$ 560.00
Overnight Mail - oversized box	each	\$	50.00	10	\$ 500.00
Courier Services (Deliveries)	each	\$	4.00	10	\$ 40.00
Photocopies B/W (8 1/2" X 11")	each	\$	0.15	1000	\$ 150.00
Photocopies B/W (11" X 17")	each	\$	0.30	5000	\$ 1,500.00
Subtotal Other Direct Expense:					\$ 3,290.00

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy										
CSJ: 0253-04-146										
County: Bexar										
Prime Provider: HNTB										
Sub Provider: Sanchez-Salazar & Associates, Inc.										
	BASIS SERVICES	\$ 193.20	\$ 181.13	\$ 169.05	\$ 103.85	\$ 67.92	\$ 43.47	Total Hours		
		Senior Project Manager	Task Manager	Senior Engineer	Design Engineer	CADD Operator	Admin / Clerical			
	Task Descriptions								Total Cost	
	FUNCTION CODE 102 - FEASIBILITY STUDIES	0	32	32	32	32	0	128	\$ 16,702.40	
	FUNCTION CODE 145 - MANAGING CONTRACT	0	58	32	0	0	32	122	\$ 17,306.18	
	FUNCTION CODE 160 - ROADWAY DESIGN	0	407	1064	2083	5264	0	8818	\$ 827,439.54	
	LABOR TOTALS	0	497	1128	2115	5296	32	9068	\$ 861,448.12	
	SUE UNIT COST ITEMS									
	UNIT COST ITEMS									
	OTHER DIRECT EXPENSES								\$ 1,605.80	
	PROJECT TOTAL	\$ -	\$ 90,021.61	\$ 190,688.40	\$ 219,642.75	\$ 359,704.32	\$ 1,391.04		\$ 863,053.92	
	% of total Hours	0.00%	5.48%	12.44%	23.32%	58.40%	0.35%			

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy								
CSJ:	0253-04-146								
County:	Bexar								
Prime Provider:	HNTB								
Sub Provider:	Sanchez-Salazar & Associates, Inc.								
	BASIS SERVICES	\$ 181.13	\$ 169.05	\$ 115.92	\$ 82.11	\$ 67.92	\$ 43.47		
		Task Manager	Senior Engineer	Project Engineer	EIT	CADD Operator	Admin / Clerical	Total Hours	Total Cost
	Task Descriptions								
102	FUNCTION CODE 102 – FEASIBILITY STUDIES								
102.A	A. Route and Design Studies								
102.A.7	7. Develop Preliminary Construction Sequence.							0	
	a. Develop a conceptual construction sequence with typical sections and general plan view depiction of the traffic control plan shall be developed and discussed with the STATE to confirm approach prior to developing TCP and scheduling DSRT (FC 160).								
102.A.7.a		32	32	0	0	32	0	128	\$ 16,702.40
	Totals	32	32	0	0	32	0	128	\$ 16,702.40

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy								
CSJ:	0253-04-146								
County:	Bexar								
Prime Provider:	HNTB								
Sub Provider:	Sanchez-Salazar & Associates, Inc.								
	BASIS SERVICES	\$ 193.20	\$ 181.13	\$ 169.05	\$ 103.85	\$ 67.92	\$ 43.47		
		Senior Project Manager	Task Manager	Senior Engineer	Design Engineer	CADD Operator	Admin / Clerical	Total Hours	Total Cost
	Task Descriptions								
145	FUNCTION CODE 145 – MANAGING CONTRACT								
145.A	A. Program Management and Administration								
145.A.1	1. Leadership and Management Team:								
145.A.1.a	a. Submit a list of proposed personnel for each assignment.		8					8	\$ 1,449.04
145.A.1.b	b. Meet twice monthly with the STATE's Project Manager (PM)							0	
145.A.1.c	c. Weekly Discipline coordination meetings (32 meetings)		32	32				64	\$ 11,205.76
145.A.1.d	d. Progress Reports and Invoicing		18				32	50	\$ 4,651.38
	Totals	0	58	32	0	0	32	122	\$ 17,306.18

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy											
CSJ: 0253-04-146											
County: Bexar											
Prime Provider: HNTB											
Sub Provider: Sanchez-Salazar & Associates, Inc.											
BASIS SERVICES		\$ 193.20	\$ 181.13	\$ 169.05	\$ 103.85	\$ 67.92	\$ 43.47				
Task Descriptions		Senior Project Manager	Task Manager	Senior Engineer	Design Engineer	CADD Operator	Admin / Clerical	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
160	FUNCTION CODE 160 - ROADWAY DESIGN										
	2. Traffic Control Plan, Detours, Sequence of Construction. Prepare Traffic Control Plans (TCP) for the project.										
160.F.2											
160.F.2	Provide complete Form 2229-Significant Project Procedures along with Page 4 (Rev 4/11) of Form 1002, specifically titled Accelerated Construction Procedures		1	8				9	\$ 1,533.53		
160.F.2.b	b. Coordinate with the State in scheduling a Traffic Control Workshop and submittal of the TCP for approval by the District Safety Review Team (DSRT).		16	16				32	\$ 5,602.88		
160.F.2.f	f. Prepare exhibits for and attend meetings with the public, as requested by the State.		40	40	40	40		160	\$ 20,878.00		
	GENERAL SHEETS										
160.F.2.a	a. Provide a written narrative of the construction sequencing and work activities per phase.		8	64	70	112		254	\$ 27,144.78	8	31.8
160.F.2.e	e. Traffic Control Plan General Notes		8	14	14	24		60	\$ 6,899.72	2	30.0
160.F.2.e	e. Construction Phasing Layouts - LP 281		4	8	24	36		72	\$ 7,014.44	2	36.0
160.F.2.e	e. Project Limits Traffic Control Schematic - US 281		8	8	16	112		144	\$ 12,070.08	6	24.0
160.F.2.e	e. Horizontal Alignment Data Sheets		8	16	72	40		136	\$ 14,347.84	5	27.2
	TRAFFIC CONTROL PLAN - US 281										
160.F.2.e	e. Traffic Control Plan - Phase 1 Stage 1A		4	8	21	24		57	\$ 5,887.85	2	28.5
160.F.2.e	e. Traffic Control Plan - Phase 1 Stage 1		16	40	76	384		516	\$ 43,633.96	18	28.7
160.F.2.e	e. Traffic Control Plan - Phase 1 Stage 2		8	20	66	224		318	\$ 26,898.22	11	28.9
160.F.2.e	e. Traffic Control Plan - Phase 1 Stage 3		4	4	12	36		56	\$ 5,092.04	2	28.0
160.F.2.e	e. Traffic Control Plan - Phase 1 Stage 4		4	8	16	30		58	\$ 5,776.12	2	29.0
160.F.2.e	e. Traffic Control Plan - Phase 1 Typical Sections		4	10	12	112		138	\$ 11,268.26	5	27.6
160.F.2.e	e. Traffic Control Plan - Phase 2 Stage 1		8	30	120	296		454	\$ 39,086.86	20	22.7
160.F.2.e	e. Traffic Control Plan - Phase 2 Stage 2		4	4	4	26		38	\$ 3,582.04	1	38.0
160.F.2.e	e. Traffic Control Plan - Phase 2 Stage 3		8	36	80	184		308	\$ 28,340.12	10	30.8
160.F.2.e	e. Traffic Control Plan - Phase 2 Stage 4		8	36	80	208		332	\$ 29,970.20	12	27.7
160.F.2.e	e. Traffic Control Plan - Phase 2 Typical Sections		4	10	40	88		142	\$ 12,545.98	5	28.4
160.F.2.e	e. Traffic Control Plan - Phase 3 Stage 1		4	8	36	44		92	\$ 8,804.00	3	30.7
160.F.2.e	e. Traffic Control Plan - Phase 3 Stage 2		8	36	140	304		488	\$ 42,721.52	18	27.1
160.F.2.e	e. Traffic Control Plan - Phase 3 Stage 3		8	16	32	112		168	\$ 15,084.08	6	28.0
160.F.2.e	e. Traffic Control Plan - Phase 3 Stage 4		8	32	40	224		304	\$ 26,226.72	21	14.5
160.F.2.e	e. Traffic Control Plan - Phase 3 Typical Sections		4	8	12	36		60	\$ 5,768.24	2	30.0
	COMMON DETAIL SHEETS										
	TRAFFIC CONTROL PLAN - DETOUR PLAN & PROFILES										
160.F.2.h	h. Detour Plan & Profiles		24	80	120	152		376	\$ 40,656.96	10	37.6
	TRAFFIC CONTROL PLAN - TEMPORARY DRAINAGE										
160.F.2.d	d. Design temporary drainage to replace existing drainage disturbed by construction activities or to drain detour pavement.		8	20	40	216		284	\$ 23,654.76	10	28.4

ATTACHMENT E- FEE SCHEDULE

Highway: US 281 - From LP 1604 to Stone Oak Prkwy											
CSJ: 0253-04-146											
County: Bexar											
Prime Provider: HNTB											
Sub Provider: Sanchez-Salazar & Associates, Inc.											
BASIS SERVICES		\$ 193.20	\$ 181.13	\$ 169.05	\$ 103.85	\$ 67.92	\$ 43.47				
Task Descriptions		Senior Project Manager	Task Manager	Senior Engineer	Design Engineer	CADD Operator	Admin / Clerical	Total Hours	Total Cost	Total Sheets or # of Items	Hours per Sheet or item
TRAFFIC CONTROL PLAN - GENERAL SHEETS											
160.F.2.h	h. Traffic Control Plan - Shoring Layouts		8	16	16	36		76	\$ 8,260.56	3	25.3
160.F.2.h	h. Traffic Control Plan - Shoring Detail for Footings		4	8	4	14		30	\$ 3,443.20	1	30.0
160.F.2.h	h. Traffic Control Plan - Temporary Paving Layouts		16	40	160	128		344	\$ 34,969.84	8	43.0
TRAFFIC CONTROL PLAN - DETOUR DIAGRAMS											
160.F.2.h	h. Detour Summary Sheet		8	16	24	72		120	\$ 11,536.48	4	30.0
160.F.2.h	h. Detour Diagrams		16	64	140	368		588	\$ 53,250.84	21	28.0
TRAFFIC CONTROL PLAN STANDARDS											
160.F.2.e	e. Assemble & Prepare TxDOT Standards		16	24	40	264		344	\$ 29,040.16	46	7.5
5. Storm Water Pollution Prevention Plans (SW3P).											
GENERAL SHEETS											
160.F.5.	2015 Environmental Permits, Issues And Commitments (EPIC)		1	8		8		17	\$ 2,076.89	1	17.0
160.F.5.	SW3P Narrative		1	8	8	8		25	\$ 2,907.69	1	25.0
US 281 SW3P											
160.F.5.	SW3P Phase 1		8	36	120	320		484	\$ 41,731.24	24	20.2
160.F.5.	SW3P Phase 2		8	64	120	264		456	\$ 42,661.12	22	20.7
160.F.5.	SW3P Phase 3		8	64	120	264		456	\$ 42,661.12	21	21.7
LOOP 1604 SW3P											
160.F.5.	SW3P Phase 1		16	36	40	72		164	\$ 18,028.12	8	20.5
160.F.5.	SW3P Phase 2		16	36	40	72		164	\$ 18,028.12	8	20.5
SW3P STANDARDS											
160.F.5.	Assemble & Prepare TxDOT Standards		4		4	52		60	\$ 4,671.76	8	7.5
6. Compute and Tabulate Quantities. Provide the summaries and quantities within all formal submittals.											
160.F.6											
160.F.6.a	a. Summary - Traffic Control		24	40	40	148		252	\$ 25,315.28	8	31.5
160.F.6.m	mb. Summary - SW3P		24	24	24	110		182	\$ 18,367.92	6	30.3
Totals		0	407	1064	2083	5264	0	8818	\$ 827,439.54	371	

WAs Used
 Contract No. 15-6SDP5001

PS Contract No. 5026

ATTACHMENT E- FEE SCHEDULE

Highway:	US 281 - From LP 1604 to Stone Oak Prkwy	Unit Costs to be charged to: FC 145			
CSJ:	0253-04-146				
County:	Bexar				
Prime Provider:	HNTB				
Sub Provider:	Sanchez-Salazar & Associates, Inc.				
OTHER DIRECT EXPENSE		UNIT	UNIT COST	QUANTITY	COST
Lodging/Hotel (Taxes/fees not included)	day/person	\$	120.00		\$
Meals (overnight stay required)	day/person	\$	59.00		\$
Mileage	mile	\$	0.540	520	\$ 280.80
Courier Services (Deliveries)	each	\$	4.00	5	\$ 20.00
Photocopies B/W (8 1/2" X 11")	each	\$	0.15	1000	\$ 150.00
Photocopies B/W (11" X 17")	each	\$	0.30	2000	\$ 600.00
Plots (B/W on Bond)	square foot	\$	1.75	60	\$ 105.00
Plots (Color on Bond)	square foot	\$	3.00	150	\$ 450.00
Subtotal Other Direct Expense:					\$ 1,605.80

Highway: US 281 - From LP 1604 to Stone Oak Prkwy
 CSJ: 0253-04-146
 County: Bexar
 Prime Provider: HNTB

Attachment F
 Work Schedule

Contract #: 15-6SDP5001
 PS Contract No. 5026
 ID or SD: SD
 Consultant Firm: HNTB

Activity ID	Activity Name	Start	Finish	2016				2017				2018				2019				2020		
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
US 281 PS&E Project				[Gantt bar from 01-Feb-16 to 31-Jul-20]																		
Project Milestones				[Gantt bar from 01-Feb-16 to 15-Feb-17]																		
MS.PS	Project Start	01-Feb-16		[Gantt bar from 01-Feb-16 to 01-Feb-16]																		
MS.30	30% Design Submittal		01-Apr-16*	[Gantt bar from 01-Feb-16 to 01-Apr-16]																		
MS.60	60% Design Submittal		01-Jun-16*	[Gantt bar from 01-Feb-16 to 01-Jun-16]																		
MS.90	90% Design Submittal		22-Aug-16*	[Gantt bar from 01-Feb-16 to 22-Aug-16]																		
MS.FD100	Final Design 100% Submittal		15-Nov-16*	[Gantt bar from 01-Feb-16 to 15-Nov-16]																		
MS.PE	Project End		15-Feb-17*	[Gantt bar from 01-Feb-16 to 15-Feb-17]																		
FC 102 - FEASIBILITY STUDIES				[Gantt bar from 01-Feb-16 to 11-May-16]																		
A. Route and Design Studies				[Gantt bar from 01-Feb-16 to 31-Mar-16]																		
B. Geotechnical Borings and Investigations				[Gantt bar from 01-Feb-16 to 11-May-16]																		
FC 120 - SOCIAL/ECONOMIC/ENVIRONMENTAL STUDIES				[Gantt bar from 01-Feb-16 to 19-Aug-16]																		
FC 130 - RIGHT-OF-WAY (ROW) DATA				[Gantt bar from 01-Feb-16 to 14-Feb-17]																		
A. ROW				[Gantt bar from 01-Feb-16 to 14-Feb-17]																		
B. Utility Coordination, Investigation, and Engineering Services				[Gantt bar from 01-Feb-16 to 15-Nov-16]																		
C. ROW Surveying				[Gantt bar from 01-Feb-16 to 15-Nov-16]																		
FC 145 - MANAGING CONTRACTED				[Gantt bar from 01-Feb-16 to 15-Feb-17]																		
A. Program Management and Administration				[Gantt bar from 01-Feb-16 to 15-Feb-17]																		
FC 160 - ROADWAY DESIGN				[Gantt bar from 01-Feb-16 to 15-Feb-17]																		
A. Field Surveying				[Gantt bar from 01-Feb-16 to 01-Apr-16]																		
B. Digital Planimetric Mapping (DGN) and Digital Terrain Modeling (DTM).				[Gantt bar from 02-Mar-16 to 01-Apr-16]																		
C. Roadway Design Controls				[Gantt bar from 08-Feb-16 to 15-Nov-16]																		
D. Drainage				[Gantt bar from 11-Mar-16 to 15-Nov-16]																		
E. Signing, Pavement Markings and Signalization (Permanent)				[Gantt bar from 25-Mar-16 to 15-Nov-16]																		
F. Miscellaneous (Roadway)				[Gantt bar from 01-Feb-16 to 15-Feb-17]																		
G. Advance Traffic Signal System (ATSS)				[Gantt bar from 29-Feb-16 to 15-Nov-16]																		
H. Bridge Design				[Gantt bar from 12-May-16 to 15-Nov-16]																		
FC 300 - DESIGN VERIFICATION, CHANGES AND ALTERATIONS				[Gantt bar from 01-Feb-17 to 31-Jul-20]																		

ATTACHMENT G

Computer Graphics Files for Document and Information Exchange

ATTACHMENT H-FG
Disadvantaged Business Enterprise (DBE)
for Federal-Aid Professional or Technical Services Contracts

- 1) **PURPOSE.** The purpose of this attachment is to carry out the U.S. Department of Transportation's (DOT) policy of ensuring nondiscrimination in the award and administration of DOT assisted contracts and creating a level playing field on which firms owned and controlled by minority or socially and economically disadvantaged individuals can compete fairly for DOT assisted contracts.
- 2) **POLICY.** It is the policy of the DOT and the Texas Department of Transportation (henceforth the "Department") that Disadvantaged Business Enterprises (DBEs) as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program, shall have the opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. Consequently, the Disadvantaged Business Enterprise requirements of 49 CFR Part 26, and the Department's Disadvantaged Business Enterprise Program, apply to this contract as follows.
 - a. The Provider will offer Disadvantaged Business Enterprises, as defined in 49 CFR Part 26, Subpart A and the Department's Disadvantaged Business Enterprise Program, the opportunity to compete fairly for contracts and subcontracts financed in whole or in part with Federal funds. In this regard, the Provider shall make a good faith effort to meet the Disadvantaged Business Enterprise goal for this contract.
 - b. The Provider and any subprovider(s) shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Provider shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. The requirements of this Special Provision shall be physically included in any subcontract.
 - c. When submitting the contract for execution by the Department, the Provider must complete and furnish Exhibit H-1 which lists the commitments made to certified DBE subprovider(s) that are to meet the contract goal and Exhibit H-2 which is a commitment agreement(s) containing the original signatures of the Provider and the proposed DBE(s). For Work Authorization Contracts, Exhibit H-1 is required at the time of submitting the contract for execution by the Department. Exhibit H-2 will be required to be completed and attached with each work authorization number that is submitted for execution, if the DBE will be performing work. Any substitutions or changes to the DBE subcontract amount shall be subject to prior written approval by the Department. If non-DBE subprovider is performing work, insert N/A (not applicable) on the line provided.
 - d. Failure to carry out the requirements set forth above shall constitute a material breach of this contract and may result; in termination of the contract by the Department; in a deduction of the amount of DBE goal not accomplished by DBEs from the money due or to become due to the Provider, not as a penalty but as liquidated damages to the Department; or such other remedy or remedies as the Department deems appropriate.
- 3) **DEFINITIONS.**
 - a. "Department" means the Texas Department of Transportation (TxDOT).
 - b. "Federal-Aid Contract" is any contract between the Texas Department of Transportation and a Provider which is paid for in whole or in part with U. S. Department of Transportation (DOT) financial assistance.
 - c. "Provider" is any individual or company that provides professional or technical services.
 - d. "DBE Joint Venture" means an association a DBE firm and one (1) or more other firm(s) to carry out a single business enterprise for profit for which purpose they combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks and profits of the joint venture are commensurate with its ownership interest.
 - e. "Disadvantaged Business Enterprise (DBE)" means a firm certified as such by the Department in accordance with 49 CFR Part 26.
 - f. "Good Faith Effort" means efforts to achieve a DBE goal or other requirement of this Special Provision which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.
 - g. "Race-neutral DBE Participation" means any participation by a DBE through customary competitive procurement procedures.

- 4) **PERCENTAGE GOAL.** The goal for Disadvantaged Business Enterprise (DBE) participation in the work to be performed under this contract is 15 % of the contract amount.
- 5) **PROVIDER'S RESPONSIBILITIES.** A DBE prime may receive credit toward the DBE goal for work performed by his-her own forces and work subcontracted to DBEs. A DBE prime must make a good faith effort to meet the goals. In the event a DBE prime subcontracts to a non-DBE, that information must be reported to the Department.
- a. A Provider who cannot meet the contract goal, in whole or in part, shall document the "Good Faith Efforts" taken to obtain DBE participation. The following is a list of the types of actions that may be considered as good faith efforts. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
- (1) Soliciting through all reasonable and available means the interest of all certified DBEs who have the capability to perform the work of the contract. The solicitation must be done within sufficient time to allow the DBEs to respond to it. Appropriate steps must be taken to follow up initial solicitations to determine, with certainty, if the DBEs are interested.
 - (2) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Provider might otherwise prefer to perform the work items with its own forces.
 - (3) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
 - (4) Negotiating in good faith with interested DBEs by making a portion of the work available to DBE subproviders and suppliers and selecting those portions of the work or material needs consistent with the available DBE subproviders and suppliers.
 - (5) The ability or desire of the Provider to perform the work of a contract with its own organization does not relieve the Provider's responsibility to make a good faith effort. Additional costs involved in finding and using DBEs is not in itself sufficient reason for a Provider's failure to meet the contract DBE goal, as long as such costs are reasonable. Providers are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
 - (6) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities.
 - (7) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Provider.
 - (8) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.
 - (9) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
 - (10) If the Department's Director of the Business Opportunity Programs Office determines that the Provider has failed to meet the good faith effort requirements, the Provider will be given an opportunity for reconsideration by the Director of the appropriate Division.

NOTE: The Provider must not cause or allow subproviders to bid their services.

- b. The preceding information shall be submitted directly to the Chair of the Consultant Selection Team responsible for the project.
- c. The Provider shall make all reasonable efforts to honor commitments to DBE subproviders named in the commitment submitted under Section 2.c. of this attachment. Where the Provider terminates or removes a DBE subprovider named in the initial commitment, the Provider must demonstrate on a case-by-case basis to the satisfaction of the department that the originally designated DBE was not able or willing to perform.
- d. The Provider shall make a good faith effort to replace a DBE subprovider that is unable or unwilling to perform successfully with another DBE, to the extent needed to meet the contract goal. The Provider shall submit a completed Exhibit H-2 Form for the substitute firm(s). Any substitution of DBEs shall be subject to prior written approval by the Department. The Department may request a statement from the firm being replaced concerning its replacement prior to approving the substitution.

- e. The Provider shall designate a DBE liaison officer who will administer the DBE program and who will be responsible for maintenance of records of efforts and contacts made to subcontract with DBEs.
- f. Providers are encouraged to investigate the services offered by banks owned and controlled by disadvantaged individuals and to make use of these banks where feasible.

6) **ELIGIBILITY OF DBEs.**

- a. The Department certifies the eligibility of DBEs, DBE joint ventures and DBE truck-owner operators to perform DBE subcontract work on DOT financially assisted contracts.
- b. This certification will be accomplished through the use of the appropriate certification schedule contained in this Department's DBE program.
- c. The Department publishes a Directory of Disadvantaged Business Enterprises containing the names of firms that have been certified to be eligible to participate as DBEs on DOT financially assisted contracts. The directory is available from the Department's Business Opportunity Programs Office. The Texas Unified Certification Program DBE Directory can be found on the Internet at:
http://www.dot.state.tx.us/services/business_opportunity_programs/tucp_dbe_directory.htm .
- d. Only DBE firms certified at the time the contract is signed or at the time the commitments are submitted are eligible to be used in the information furnished by the Provider as required under Section 2.c. and 5.d. above. For purposes of the DBE goal on this contract, DBEs will only be allowed to perform work in the categories of work for which they were certified.

7) **DETERMINATION OF DBE PARTICIPATION.**

A firm must be an eligible DBE and perform a professional or technical function relating to the project. Once a firm is determined to be an eligible DBE, the total amount paid to the DBE for work performed with his/her own forces is counted toward the DBE goal. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the subprovider is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

A DBE subprovider may subcontract no more than 70% of a federal aid contract. The DBE subprovider shall perform not less than 30% of the value of the contract work with assistance of employees employed and paid directly by the DBE; and equipment owned or rented directly by the DBE. DBE subproviders must perform a commercially useful function required in the contract in order for payments to be credited toward meeting the contract goal. A DBE performs a commercially useful function when it is responsible for executing the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. When a DBE is presumed not to be performing a commercially useful function, the DBE may present evidence to rebut this presumption.

A Provider may count toward its DBE goal a portion of the total value of the contract amount paid to a DBE joint venture equal to the distinct, clearly defined portion of the work of the contract performed by the DBE.

Proof of payment, such as copies of canceled checks, properly identifying the Department's contract number or project number may be required to substantiate the payment, as deemed necessary by the Department.

8) **RECORDS AND REPORTS.**

- a. After submission of the initial commitment reported (Exhibit H-1), required by Section 2.c. of this attachment, the Provider shall submit Monthly Progress Assessment Reports (Exhibit H-3), after contract work begins, on DBE involvement to meet the goal and for race-neutral participation. One copy of each report is to be sent to the Department's Business Opportunity Programs Office monthly, in addition one copy is to be submitted with the Provider's invoice. **Only actual payments made to subproviders are to be reported. These reports will be required until all subprovider activity is completed.** The Department may verify the amounts being reported as paid to DBEs by requesting copies of canceled checks paid to DBEs on a random basis.
- b. DBE subproviders should be identified on the report by name, type of work being performed, the amount of actual payment made to each during the billing period, cumulative payment amount and percentage of the total contract amount. These reports will be due within fifteen (15) days after the end of a calendar month. **Reports are required even when no DBE activity has occurred in a billing period.**

- c. All such records must be retained for a period of seven (7) years following final payment or until any investigation, audit, examination, or other review undertaken during the seven (7) years is completed, and shall be available at reasonable times and places for inspection by authorized representatives of the Department or the DOT.
 - d. Prior to receiving final payment, the Provider shall submit a Final Report (Exhibit H-4), detailing the DBE payments. The Final Report is to be sent to the Department's Business Opportunity Programs Office and one (1) copy to be submitted with the Provider's final invoice. If the DBE goal requirement is not met, documentation of the good faith efforts made to meet the goal must be submitted with the Final Report.
- 9) **COMPLIANCE OF PROVIDER.** To ensure that DBE requirements of this DOT-assisted contract are complied with, the Department will monitor the Provider's efforts to involve DBEs during the performance of this contract. This will be accomplished by a review of Monthly Progress Assessment Reports (Exhibit H-3), submitted to the Department's Business Opportunity Programs Office by the Provider indicating his progress in achieving the DBE contract goal, and by compliance reviews conducted by the Department. The Monthly Progress Assessment Report (Exhibit H-3) must be submitted at a minimum monthly to the Business Opportunity Programs Office, in addition to with each invoice to the appropriate agency contact.

The Provider shall receive credit toward the DBE goal based on actual payments to the DBE subproviders with the following exceptions and only if the arrangement is consistent with standard industry practice. The Provider shall contact the Department if he/she withholds or reduces payment to any DBE subprovider.

- (1) A DBE firm is paid but does not assume contractual responsibility for performing the service;
- (2) A DBE firm does not perform a commercially useful function;
- (3) Payment is made to a DBE that cannot be linked by an invoice or canceled check to the contract under which credit is claimed;
- (4) Payment is made to a broker or a firm with a brokering-type operation;
- (5) Partial credit is allowed, in the amount of the fee or commission provided the fee or commission does not exceed that customarily allowed for similar services, for a bona fide service, such as professional, technical, consultant, or managerial services, and assistance in the procurement of essential personnel, facilities, equipment, materials, or supplies required for performance of the contract.

A Provider's failure to comply with the requirements of this Special Provision shall constitute a material breach of this contract. In such a case, the Department reserves the right to terminate the contract; to deduct the amount of DBE goal not accomplished by DBEs from the money due or to become due the Provider, not as a penalty but as liquidated damages to the Department; or such other remedy or remedies as the Department deems appropriate.

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EXHIBIT H-1

Texas Department of Transportation Subprovider Monitoring System Commitment Worksheet

Contract #: 15-6SDP5001 Assigned Goal: 15 % Federally Funded X
State Funded _____

Prime Provider: HNTB Corporation Total Contract Amount: \$ _____

Prime Provider Info: DBE ___ HUB ___ Both ___

Vendor ID #: 1431623092001 DBE/HUB Expiration Date: N/A

(First 11 Digits Only)

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

Subprovider(s) (List All)	Type of Work	Vendor ID # (First 11 Digits Only)	D=DBE H=HUB	Expiration Date	\$ Amount or % of Work *
Cobb, Fendley & Associates, Inc.	Utility Coordination	1742192879100			3%
The DeBerry Group	Public Involvement	1371659429900			1%
HVJ Associates, Inc.	Geotech	1760146410400	D	2/29/2016	3%
K Friese & Associates, Inc.	Drainage	1481304687800	D	5/29/2018	5%
Keville Enterprises Inc.	Scheduling	10431125912			1%
Lina T. Ramey and Associates, Inc.	Subsurface Utility Eng.	1752774147800	D	10/18/2016	4%
Poznecki-Camarillo, Inc.	Roadway Engineering	1742214090900	D	2/29/2016	3.75%
RODS Surveying, Inc.	Survey	1760444440000	D	10/31/2016	4%
Sanchez-Salazar & Associates, LLC	Roadway Engineering	1462055125000	D	2/28/2016	1.25%
Structural Engineering Associates, Inc.	Structural Engineering	1742210137200	D	12/31/2016	8%
Subprovider(s) Contract or % of Work* Totals					34%

*For Work Authorization Contracts, indicate the % of work to be performed by each subprovider.

Total DBE or HUB Commitment Dollars \$ _____

Total DBE or HUB Commitment Percentages of Contract 29 %

(Commitment Dollars and Percentages are for Subproviders only) 12/06 DBEH1.AT

EXHIBIT H-2
Texas Department of Transportation
Subprovider Monitoring System Commitment Agreement

This commitment agreement is subject to the award and receipt of a signed contract from the Texas Department of Transportation (TxDOT). **NOTE: Exhibit H-2 is required to be attached to each contract that does not include work authorizations. Exhibit H-2 is required to be attached with each work authorization. Exhibit H-2 is also required to be attached to each supplemental work authorization. If DBE/HUB Subproviders are used, the form must be completed and signed. If no DBE/HUB Subproviders are used, indicate with "N/A" on this line: _____ and attach with the work authorization or supplemental work authorization.**

Contract #: 15-6SDP5001 Assigned Goal: 15% Prime Provider: HNTB Corporation

Work Authorization (WA)#: _____ WA Amount: _____ Date: _____

Supplemental Work Authorization (SWA) #: _____ to WA #: _____ SWA Amount: _____

Revised WA Amount: _____

Description of Work <i>(List by category of work or task description. Attach additional pages, if necessary.)</i>	Dollar Amount <i>(For each category of work or task description shown.)</i>
Total Commitment Amount (Including all additional pages.)	\$ _____

IMPORTANT: The signatures of the prime and the DBE/HUB and Second Tier Subprovider, if any (both DBE and Non-DBE) and the total commitment amount must always be on the same page.

Provider Name: Address: Phone # & Fax #: Email:	Name: _____ <i>(Please Print)</i> Title: _____ <hr/> <div style="display: flex; justify-content: space-between;">Signature Date</div>
DBE/HUB Sub Provider Subprovider Name: VID Number: Address: Phone # & Fax #: Email:	Name: _____ <i>(Please Print)</i> Title: _____ <hr/> <div style="display: flex; justify-content: space-between;">Signature Date</div>
Second Tier Sub Provider Subprovider Name: VID Number: Address: Phone # & Fax #: Email:	Name: _____ <i>(Please Print)</i> Title: _____ <hr/> <div style="display: flex; justify-content: space-between;">Signature Date</div>

VID Number is the Vendor Identification Number issued by the Comptroller. If a firm does not have a VID Number, please enter the owner's Social Security or their Federal Employee Identification Number (if incorporated).

EXHIBIT H-4

Texas Department of Transportation Subprovider Monitoring System Final Report

The Final Report Form should be filled out by the Prime Provider and submitted to the Contract Manager and the Business Opportunity Programs Office for review upon completion of the contract. The report should reflect **all subcontract activity** on the project. The report will aid in expediting the final estimate for payment. If the HUB or DBE goal requirements were not met, documentation supporting good faith efforts must be submitted.

DBE Goal: _____%

OR

HUB Goal: %

Total Contract Amount: \$ _____

Total Contract Amount: \$ _____

Contract Number: _____

Vendor ID #	Subprovider	Total \$ Amt Paid to Date
TOTAL		

This is to certify that _____% of the work was completed by the HUB or DBE subproviders as stated above.

By: Prime Provider

Per: Signature

Subscribed and sworn to before me, this _____ day of _____, 20__

Notary Public _____ County

My Commission expires: _____

EXHIBIT H-5

Federal Subprovider and Supplier Information

The Provider shall indicate below the name, address and phone number of all successful and unsuccessful subproviders and/or suppliers that provided proposals/quotes for this contract prior to execution. You may reproduce this form if additional space is needed.

Name	Address	Phone Number
Cobb, Fendley & Associates, Inc.	1100 NW Loop 410, Suite 350 San Antonio, TX 78213	210-826-4611
The DeBerry Group	110 Broadway St., Suite 625 San Antonio, TX 78205	210-223-2772
HVJ Associates, Inc.	10100 Reunion Place, Suite 850 San Antonio, TX 78216	866-447-9081
K Friese & Associates, Inc.	1120 S. Capital of Texas Highway, City View 2, Suite 100 Austin, TX 78746	512-338-1704
Keville Enterprises Inc.	13727 Noel Rd. Tower II, Suite 200 Dallas, TX 75240	972-774-4415
Lina T. Ramey and Associates, Inc.	3320 Belt Line Rd. Farmers Branch, TX 75234	214-979-1144
Poznecki-Camarillo, Inc.	5835 Callaghan Road, Suite 200 San Antonio, TX 78228	210-349-3273
RODS Surveying, Inc.	1540 Pleasanton Rd. Suite B San Antonio, TX 78221	210-922-9092
Sanchez-Salazar & Associates, LLC	5866 De Zavala Rd. 102-152 San Antonio, TX 78249	210-314-5458
Structural Engineering Associates, Inc.	3838 NW Loop 410 San Antonio, TX 78229	210-735-9202

The information must be provided and returned with the contract.

Signature

Date

Printed Name

Email

Phone #