TOM GREEN COUNTY, TEXAS

REQUEST FOR BID

RFB 18-024: NATURAL GAS LINE INSTALLATION

Prepared By:

Tom Green County Auditor
113 West Beauregard
San Angelo, Texas 76903
Phone 325-659-6500
purchasing@co.tom-green.tx.us

Release Date: August 8, 2018

Due Date: August 23, 2018

RFB 18-024: Natural Gas Line Installation

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INTRODUCTION

Bids are being accepted for RFB 18-024: Natural Gas Line Installation. This RFB is provided by Tom Green County (the County) for the purpose of soliciting bids from prospective vendor(s) to provide a natural gas line for the Detention Center currently under construction.

These are the only approved instructions for use on your bid. Items contained herein apply to and become a part of Terms and Conditions of the bid. Any exceptions thereto must be in writing.

The contractor shall furnish all labor, tools, equipment and materials in order to fulfill the obligations of this contract.

Tom Green County reserves the right to reject any bid which: fails to meet the mandatory requirements as stated; does not comply with the specification requirements of the RFB; or exceeds budgetary expectations.

SCHEDULE

Issue RFB	August 8, 2018
Written Inquiries must be received by	August 16, 2018
County Responses to inquiries will be issued by	August 17, 2018
Bids Due	August 23, 2018

Please be sure to submit all required forms and documentation.

Questions concerning this RFB should be directed in writing to the **Tom Green County Auditor's Office, attention Darin Schell**. Email to purchasing@co.tom-green.tx.us

*Any catalog, brand name or manufacturer's reference used in a bid invitation is descriptive-NOT restrictive-it is used only to indicate type and quality desired. Bids on brand of like nature and quality will be considered. If the bid is based on other than the reference specifications, the proposal must show the manufacturer, brand or trade name, lot number, etc., of the article offered. If other than the brands(s) specified is offered, illustrations and complete descriptions should be made part of the bid. If the bidder takes no exception to specifications or reference data, he/she will be required to furnish brand names, numbers, etc. as specified.

PRODUCT / PROJECT DETAILS

- The scope of services requested in this RFB includes the items listed below:

    - Install an approximately 1,600 foot, 4 inch diameter HDPE natural gas supply line to serve the new Tom Green County Detention Center per Atmos Energy standards and specifications
    - This work must be completed by an approved Atmos Energy installer.
    - Estimated construction budget is $65,000.

REQUEST FOR BID

1. BID SUBMISSION

The bidder is expected to thoroughly examine the specifications and all instructions contained in this RFB.

PROVIDE ONE (1) ORIGINAL AND TWO (2) COPIES OF YOUR BID (EACH SIGNED IN INK AND SEALED IN A MARKED ENVELOPE) TO:

TOM GREEN COUNTY AUDITOR

113 WEST BEAUREGARD

SAN ANGELO, TEXAS 76903-5834

325-659-6500

Sealed BIDs shall be received no later than:

2:00 p.m. Thursday, August 23, 2018

And will be publicly opened in the County Auditor's Conference Room located on the second floor of the Judge Edd B and Frances Frink Keyes Building at

113 W. Beauregard Ave., San Angelo, Texas

At 2:15 p.m.

MARK THE OUTSIDE OF EACH ENVELOPE:

"RFB 18-024: Natural Gas Line Installation"

In the event that Tom Green County Offices are officially closed on a bid opening day, bids will be received until 2:00 p.m. on the next business day, at which time the bids will be publicly opened.

If offeror does not wish to submit an offer at this time but desires to remain on the list for this service, please submit a "NO OFFER" by the same time and at the same location as stated above. If response is not received for three consecutive RFBs, offeror shall be removed from list. If however, you choose to "NO OFFER" this service and wish to remain on list for other services, please state the particular service under which you wish to be classified.

Tom Green County is always very conscious and extremely appreciative of the time and effort you must expend to submit an offer. We would appreciate your indicating on any "NO OFFER" response, the requirements of this RFB which may have influenced your decision to "NO OFFER".

2. LATE BIDS

BIDs received after submission deadline shall be returned unopened and will be considered void and unacceptable and they will be returned unopened to the bidder. Bidder should allow sufficient mailing time to ensure the timely receipt of their bid or bids may also be hand delivered prior to deadline. Tom Green County is not responsible for lateness of mail, carrier, etc., and time/date recorded by the County Auditor's Office shall be the official time of receipt.

3. ALTERING BIDS

Any interlineations, alteration, or erasure made to the BID must be initialed by the signer of the BID prior to receiving time, guaranteeing authenticity.

4. WITHDRAWAL OF BID

A BID may not be withdrawn or cancelled by the offeror for a period of ninety (90) days following the date designated for the receipt of BID, without prior approval by the Commissioners Court based on a written acceptable reason. Offeror so agrees upon submittal of their BID.

5. BID OPENING

BIDs will be received and publicly acknowledged at the location, date, and time stated above. Offerors, their representatives and interested persons may be present. BIDs shall be received and acknowledged only so as to avoid disclosure of the contents to competing offerors and kept secret during the negotiation/evaluation process.

NOTE: All BIDs shall be open for public inspection after the contract is awarded, except for trade secrets and confidential information contained in the BID so identified by offeror as such.

6. AWARD OF BIDS

The County reserves the right to accept or reject all or any part of any bid; waive minor technicalities, irregularities, or informalities; and award to the lowest responsible bidder, as determined to be in the best interest of Tom Green County. Tom Green County reserves the right to award by item or by total bid. Prices should be itemized. Receipt of any bid shall under no circumstances obligate Tom Green County to accept the lowest bid.

LOWEST AND BEST BID – All bids will be awarded to the lowest and best bidder. The determination of the lowest and best bid by the Commissioners Court may involve all or some of the following factors: price, conformity to specifications, financial responsibility to meet the contract, previous performance, facilities and equipment, availability of repair parts, response to service needs, experience, delivery promise, terms of payment, compatibility as required, other cost, and other objectives and accountable factors.

7. FORMATION OF CONTRACT

A response to this solicitation is an offer to contract with Tom Green County based upon the terms, conditions, scope of work, and specifications contained in this request. A solicitation shall become a contract when awarded by the Tom Green County Commissioners Court and a purchase order or notice of award is mailed or otherwise furnished to the successful bidder. The prospective vendor must submit a signed Bid Affidavit with the response thus eliminating the need for a formal signing process.

8. CONTRACT TERM

Contract will be in effect until the project is either completed or terminated.

9. REFERENCES

Offeror shall supply with this bid a list of at least three (3) references where like services and/or products are provided in the public sector. Include name of entity, address, telephone number and name of representative. **Note:** See Exhibit A – Vendor Reference Form.

10. INSURANCE

The contractor shall provide Worker's Compensation coverage. The contractor shall provide Comprehensive General (Public) Liability Insurance of $1,000,000 (combined single limit for bodily injury and property damage) to include (but not limited to) premises/operation, independent contractors, personal injury, products/completed operations and contractual liability. Comprehensive Automobile Liability insurance for owned/leased vehicles, non-owned vehicles or hired cars shall be provided in the minimum amount of $1,000,000 (combined single limit for bodily injury and property damage.) **The contractor shall provide the County with certificates of insurance evidencing the required insurances *within 10 calendar days of the Notice of Award.*** The contractor further agrees that with respect to the above required insurances, the County shall be named as an additional insured as its interest may appear; be provided with a waiver of subrogation; and be provided with thirty (30) days advance notice in writing, of cancellation or material change.

11. TERMINATION

The obligation to provide further service under the terms of the resulting agreement may be terminated by the either party upon sixty (60) days written notice. Tom Green County reserves the right to terminate upon breach of contract as allowed by law.

12. SEVERABILITY

If any part of this bid is declared unenforceable or invalid, the remainder will continue to be valid and enforceable.

13. DUTY OF VENDOR

In order for bids to be compared on an identical basis, it is necessary that all portions of the document, including requests for specific information about, services, reference forms and general information regarding the vendor be completed and adhered to.

14. PERFORMANCE OF CONTRACT

The contractor shall perform all work in a superior workmanlike manner and products shall be delivered in the condition requested, to the satisfaction of the Tom Green County Commissioners Court or designated representatives.

All items proposed shall be new, in first class condition, including containers suitable for shipment and storage, unless otherwise indicated in the bid. Verbal agreements to the contrary will not be recognized. All materials and services shall be subject to County's approval. Unsatisfactory material will be returned at Seller's expense.

Tom Green County reserves the right to enforce the performance of this contract in any manner prescribed by law or deemed to be in the best interest of the County in the event of breach or default of resulting contract award.

15. CAVEAT

Although every effort has been made to provide accurate and up-to-date information, companies interested in supplying bids should contact the County Auditor with any questions you may have (see "Introduction").

16. VARIATION IN QUANTITY

The County assumes no liability for commodities produced, processed or shipped in excess of the amount specified herein.

17. NON-EXCLUSIVE CONTRACT

It is expressly understood and agreed that in case Tom Green County should need any item(s) not available from the successful vendor during the term of this contract within the time frame requested, Tom Green County reserves the right to purchase these items from other than the successful vendor. This shall not be in violation of any terms or conditions of this contract. Further, Tom Green County reserves the right to purchase from or seek another vendor if, at any time, the vendor's prices do not conform to public pricing.

18. REQUIREMENTS OF SPECIFICATIONS

Each offeror shall be held to have examined the requirements of the RFB under consideration and confirm he fully understands the RFB and the County's needs and satisfies himself that he is cognizant of all factors relating to requirements contained in the RFB.

19. SILENCE OF SPECIFICATIONS

The apparent silence of the RFB as to any detail or to the apparent omission from it of a detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of the RFB shall be made on the basis of this statement.

20. CONFLICT OF INTEREST

No public official shall have interest in a contract, which results from this RFB, in accordance with Vernon's Texas Codes Annotated Local Government Code Title 5, Subtitled C, Chapter 171.

21. CONFIDENTIALITY

All information disclosed by Tom Green County to successful offeror for the purpose of the work to be done or information that comes to the attention of the successful offeror during the course of performing such work is to be kept strictly confidential.

22. ADDENDA

Only questions regarding clarification of instructions may be handled verbally. Any interpretations, corrections or changes to this RFB will be made by addenda. Sole issuing authority of addenda shall be vested in the Tom Green County Auditor. Any addendum will be sent via email to those companies known to be in possession of the bid document. Bidders are responsible for ensuring that a correct email address is listed in the County's vendor database and may email purchasing@co.tom-green.tx.us to update this information or to specifically request copies of any addenda issued. It is the responsibility of the Bidder to ensure that all addenda are received and included with their submission. Failure to submit all signed addenda may result in bid being considered non-responsive.

23. CHANGE ORDERS

No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders to the contract will be made in writing.

24. ASSIGNMENT

The successful offeror shall not sell, assign, transfer or convey any contract resulting from this RFB, in whole or in part, without the prior written consent of the Tom Green County Commissioners Court.

25. VENUE

This agreement will be governed and construed according to the laws of the State of Texas. This agreement is performable in Tom Green County, Texas.

26. SUBMITTAL OF CONFIDENTIAL MATERIAL

Any BID material that is to be considered as confidential in nature must be clearly marked as such by the proposer and will be treated as confidential by Tom Green County.

27. MINIMUM STANDARDS FOR RESPONSIBLE PROSPECTIVE OFFERORS

A prospective offeror must affirmatively demonstrate their responsibility and ability to meet the following requirements:

1. Has adequate financial resources, or the ability to obtain such resources as required;
2. Have a satisfactory record of performance;
3. Have a satisfactory record of integrity and ethics;
4. Be otherwise qualified and eligible to receive an award.

Tom Green County may request representation and other information sufficient to determine the offeror's ability to meet these minimum standards listed above.

28. INDEMNIFICATION

By entering into this contract, the successful bidder agrees to defend, indemnify and hold harmless Tom Green County and all its officers, agents, and employees from all suits, causes of actions, or other claims of any character, name and description brought for or on account of any injuries of damages received or sustained by any person, persons, or property on account of any breach, negligent act or fault of the successful offeror, or of any agent, employee, subcontractor, invitee or supplier in the execution of, or performance under, any contract which may result from BID award. Successful offeror shall pay judgments with costs, including attorney fees, expenses and costs of court, which may be obtained, against Tom Green County growing out of such injury or damages.

29. WARRANTY

The Vendor shall not limit or exclude any express, written, or implied warranties and any attempt to do so shall render this contract voidable at the option of Tom Green County. The bidder warrants that the goods furnished will conform to the specifications, drawings and descriptions listed in the bid invitation, and to the sample(s) furnished by the bidder, if any. In the event of a conflict between the specifications, drawings, and descriptions, the specifications shall govern.

SAFETY WARRANTY: The vendor warrants that the product sold to the County shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act of 1970. In the event the product does not conform to OSHA standards, the County may return the product for correction or replacement at the vendor's expense. In the event the vendor fails to make the appropriate correction within a reasonable time, the correction made by the County will

be at the vendor's expense.

30. SALES TAX

Tom Green County is by statute exempt from the State Sales Tax and Federal Excise Tax; therefore, the BID price shall not include such taxes.

31. DELIVERY

Bid cost shall be F.O.B. Destination. If otherwise, show the exact cost to deliver by unit price, extend and show total. Actual costs will be based on quantities delivered.

If a delay is foreseen, the contractor shall give written notice to the County Auditor. The County has the right to extend the delivery date if the reason(s) appear valid. The Contractor must keep the County advised at all times on the order status. Default in promised delivery (without accepted reasons) or failure to meet specifications, authorizes the County to purchase supplies elsewhere and charge full increase in cost and handling to the defaulting contractor.

32. TITLE AND RISK OF LOSS

The title and risk of loss of goods shall not pass to the County until the County actually receives and takes possession of the goods at the point or points of delivery.

33. DESIGN, STANDARDS AND PRACTICES

Design, strength, quality of materials and workmanship must conform to the highest standards of engineering practices and/or professional services.

34. PATENTS/COPYRIGHTS

The successful offeror agrees to protect Tom Green County from claims involving infringements of patents and/or copyrights.

35. INVOICES POINT OF CONTACT AFTER RFB IS AWARDED

Invoices shall be mailed directly to:

Dianna Spieker
Tom Green County Treasurer
113 W. Beauregard
San Angelo, Texas 76903

The invoices shall show:

1. Name and address of successful offeror;
2. Detailed breakdown of all charges for the services or products delivered stating any applicable period of time

36. PAYMENT

Payment will be made upon receipt and acceptance by the County of all completed services and/or products ordered and receipt of a valid invoice, in accordance with the Texas Government Code, Chapter 2251. Successful offeror is required to pay subcontractors within ten (10) days.

37. FUNDING

Funds for payment have been provided through the Tom Green County budget approved by the Commissioners Court for this fiscal year only. State of Texas statutes prohibit the obligations and expenditure of public funds beyond the fiscal year for which a budget has been approved. Therefore, anticipated orders or other obligations that may arise past the end of the current Tom Green County fiscal year shall be subject to budget approval.

In the event funds do not become available, the contract may be terminated or the scope amended. There shall be neither penalty nor any additional charges incurred by the County. The bidder, in accepting the contract, agrees that the County shall not be liable for damages in the event that the contract is terminated due to a lack of funding.

38. DISCOUNTS

Discounts for prompt payment offered may be taken into consideration during the bid evaluation. Terms of payment offered will be reflected in the space provided on the bid form. All terms of payment (cash discount) will be taken and computed from the date of delivery of acceptable material or services, or the date of receipt of invoice, whichever is later.

39. DEBARMENT

Bidder certifies that at the time of submission of its bid, Bidder was not on the federal government's list of suspended, ineligible or debarred contractors and that Bidder has not been placed on this list between the time of its bid submission and the time of execution of the Contract. If Bidder is placed on this list during the term of the Contract, Bidder shall notify the Tom Green County Auditor. False certification or failure to notify may result in termination of the Contract for default.

In accordance with Texas Local Government Code Chapter 154.045, if a seller is found to be indebted to Tom Green County by manner of delinquent taxes, fines, fees, or indebtedness arising from other written agreements, then Tom Green County may offset payments under a contract to satisfy the outstanding debt and no payments will be made until the debt is paid in full.

40. CONFLICTS BETWEEN REQUEST FOR BID AND BID

Should a conflict arise between the terms and provisions of this RFB and the BID of the vendor, the terms and provisions of this RFB will prevail.

41. COMPLIANCE

All bidders will comply with all Federal, State and local laws relative to conducting business in Tom Green County including, but not limited to licensing, labor and health laws. The laws of the State of Texas will govern as to the interpretation, validity and effect of this bid, its award, and any contract entered into.

42. DISCRIMINATION

During the performance of this contract, the successful bidder agrees as follows:

a. The successful bidder will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The successful bidder will take affirmative action to ensure that applicants are employed, and the employees are treated during employment without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

b. The successful bidder will, in all solicitations or advertisements for employees placed by or on behalf of the successful bidder, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

c. The successful bidder will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the successful bidder's commitments under this section.

43. CONFLICT OF INTEREST QUESTIONNAIRE (CIQ):

Chapter 176 of the Texas Local Government Code requires that any proposer or person considering doing business with a local government entity disclose in the Conflict of Interest Questionnaire the proposer's or person's affiliation or business relationship that might cause a conflict of interest with a local government entity. If applicable, this questionnaire, by law, must be filed with the records administrator of Tom Green County within seven (7) days of notice of potential award or within seven (7) days after submitting a bid response. Additionally, a new form must be filed no later than the seventh (7th) business day after the person becomes aware of the facts that require the statement to be filed. The form can be found online at https://www.ethics.state.tx.us/filinginfo/conflict_forms.htm. By submitting a response to this proposal, the offeror represents that it is in compliance with the requirements of Chapter 176 of the Texas Local Government Code. If required, send completed forms to the Tom Green County Clerk's Office located at 124 West Beauregard Avenue, San Angelo, Texas 76903.

44. HB 1295

Bidder must complete a form 1295 filing, disclosure of interested parties, on the Texas Ethics Commission website. https://www.ethics.state.tx.us/tec/1295-Info.htm This filing shall be completed with the RFB, and prior to the issuance of any notice to proceed. For form item# 3 use "RFB 18-024: Natural Gas Line Installation".

45. VENDOR RESTRICTIONS REGARDING BOYCOTTS OF ISRAEL

Government Code 2270 prohibits governmental entities (which include cities, counties, public school, special purpose districts, etc.) from contracting with companies who boycott Israel and from investing in companies that boycott Israel. This requires contracts to have written verification from the company that it does not boycott Israel and will not boycott Israel during the term of the contract.

46. PREVAILING WAGE RATES

The Davis-Bacon and related acts apply to contractors and subcontractors performing the construction of a public work, including a building, highway, road, excavation, and repair work or other project development or improvement, paid for in whole or in part from public funds, without regard to whether the work is done under public supervision or direction.

Sec. 2258.021. RIGHT TO BE PAID PREVAILING WAGE RATES. (a) A worker employed on a public work by or on behalf of the state or a political subdivision of the state shall be paid:

(1) not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the work is performed; and

(2) not less than the general prevailing rate of per diem wages for legal holiday and overtime work.

Under Executive Order (EO) 13658, an hourly minimum wage of $10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. The EO minimum wage rate will be adjusted annually. Overtime pay at a rate not less than one and one-half times the regular rate of pay is required after 40 hours of work in a work week.

Penalty: If the selected respondent or any subcontractor fails to comply with the prevailing wage law, it shall forfeit to the County sixty dollars ($60.00) per calendar day or part of the day for each laborer, workman, or mechanic who is paid less than the specified rate, pursuant to §2258.023 of the Texas Government Code.

Refer to Attachment 2. Wage Determination
TX180007 HEAVY AND HIGHWAY will be used for this project.

47. BID SECURITY

If the bid exceeds $100,000, the bid must be accompanied by a Bid Bond, Certified and/or Cashier's Check (on a solvent bank in the State of Texas), drawn to the order of the OWNER in the sum of not less than five per cent (5%) of the total amount of the bid. The bid bond must be executed by a surety meeting the requirements set forth in stated conditions.

The bid security shall be made payable without condition to Tom Green County, Texas, hereinafter referred to as OWNER. The bid security may be retained by and shall be forfeited to the OWNER as liquidated damages if the bid is accepted and a contract based thereon is awarded and the Offeror should fail to fulfill contract in the form prescribed, with legally responsible sureties, within thirty (30) days after such award is made by OWNER.

48. RETURN OF BID SECURITY

The bid security of the successful offeror will be retained until he has furnished the required Contract Security and insurance, whereupon checks furnished as bid security will be returned. If he fails to furnish the required Contract Security and insurance within thirty (30) days of the Notice of Award, OWNER may annul the Notice of Award and the bid security of the Offeror will be forfeited. OWNER may retain the bid security of any Offeror whom OWNER believes to have a reasonable chance of receiving the award until the day after the required documents are delivered by CONTRACTOR to OWNER but not to exceed 45 days after the bid opening. Checks furnished, as bid security by other Offeror, will be returned within thirty days of the bid opening.

49. PERFORMANCE AND PAYMENT BONDS

1. Vendor shall comply with bond thresholds stated below:

a) Performance Bond: If the bid exceeds $100,000, and having satisfied all Conditions of award as set forth elsewhere in these documents, the successful bidder shall, within 30 days of award notice and prior to commencement of work, furnish a performance bond(s) in a penal sum of at least the full amount of the contract as awarded, in the form included in the specifications, which secures the faithful performance of the contract.

b) Payment Bond: If the bid exceeds $25,000, and having satisfied all Conditions of award as set forth elsewhere in these documents, the successful bidder shall, within 30 days of award notice and prior to commencement of work, furnish a payment bond (s) in a penal sum of at least the full amount of the contract as awarded which secures the payment of all persons, firms or corporations to whom the CONTRACTOR may become legally indebted for labor, materials, tools, equipment, or service, of any nature, employed or used by him in performing the work.

2. On each such bond the rate of premium shall be stated, together with the total amount of the premium charged. Bond(s) shall bear the date as a date subsequent to, the date of the contract, and not later than the 30th day after a contract is executed. The current power of attorney for the person who signs for any surety company shall be attached to such bond.

3. The failure of the Successful Offeror to supply the required bonds within thirty (30) days after the prescribed forms are presented for signature, or within such extended period as the COUNTY may grant based upon reasons determined adequate by the County, shall constitute a default, and the county may either award the contract to the next reasonable Offeror or re-advertise for bids, and may charge against the Offeror the difference between the amount of the bid and the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid guarantee.

50. WAIVER OF BONDS

The requirement for Performance bonds may be waived under the following conditions:

a) The total contract sum is one hundred thousand dollars ($100,000.00) or less.

b) The general contractor agrees to one lump sum payment at completion of the project in lieu of standard monthly progress payments. Both of the above requirements must be met for waiver of Performance Bonds to occur.

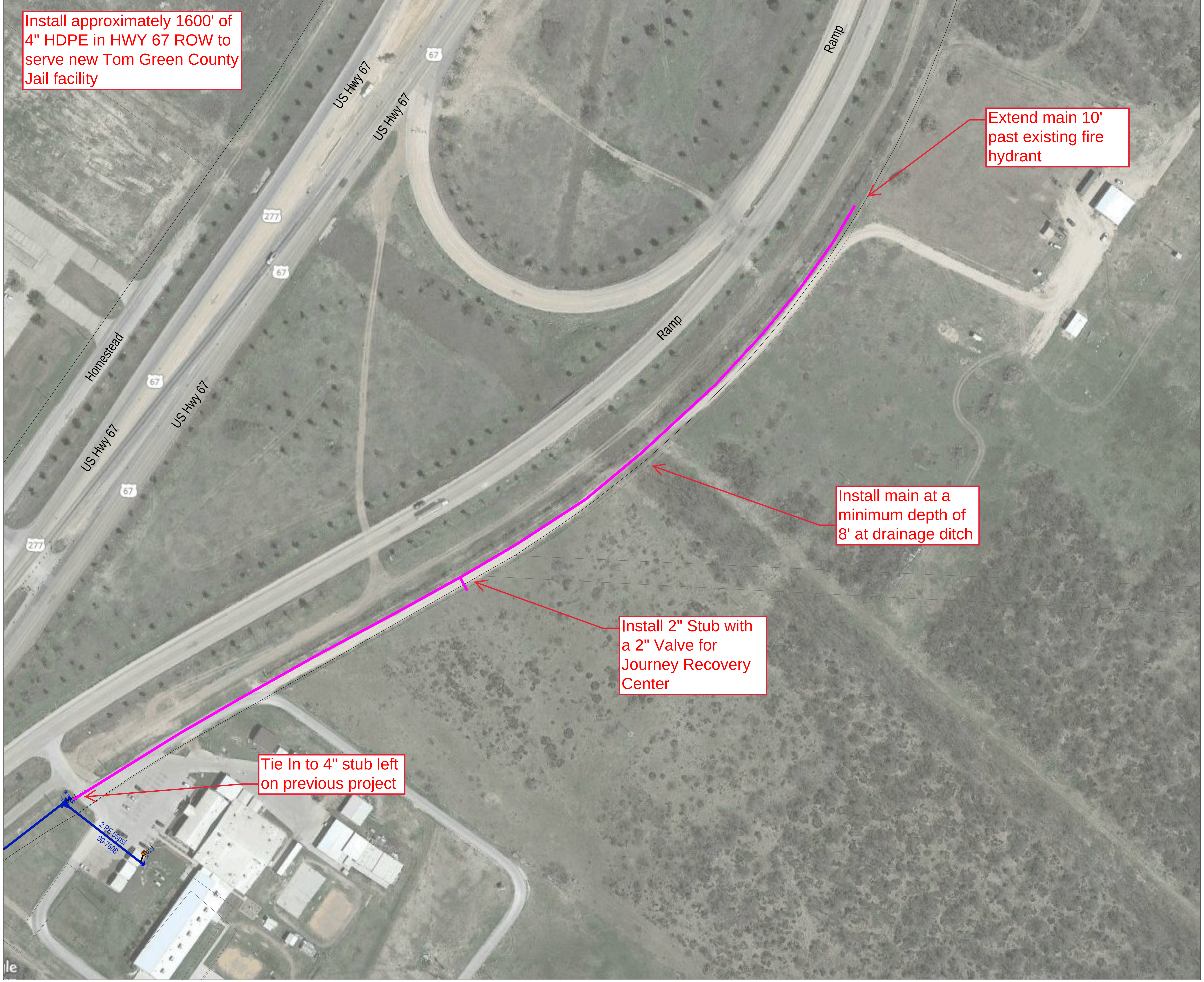
51. TEXAS STEEL RESOLUTION

On February 21, 2017 Tom Green County Commissioner's Court passed the Tom Green County Texas Steel Resolution stating that "The Tom Green County Commissioners Court believes domestic iron and steel should be given preference in all local projects over foreign imports to support a strong, sustainable Texas Iron and Steel Industry and to ensure the use of high quality products in our public works projects".

ATTACHMENT 1

SITE VIEW

RFB 18-024: Natural Gas Line Installation



Legend

- Main.Existing Intermediate Pressure Route
- Abc Def Main Annotation.Existing Annotation
- Cap.Existing Location
- Abc Def Cap.Station Plus Annotation - Existing
- Reducer.Existing Location
- Abc Def Reducer.Station Plus Annotation - Existing
- Tee.Existing Location
- Abc Def Tee.Remarks Annotation
- Abc Def Tee.Station Plus Annotation - Existing
- CP Test Station.Existing Location
- Abc Def CP Test Station.Station Plus Annotation

ATMOS energy

GAS CONSTRUCTION PRINT

PROJECT NO.

SHEET 1 OF 1

DATE 05/09/2018

PROJECT MANAGER Wiebe, Cornelio (Corney)

100

PHONE

MAP #

PROJECT NAME US 67 AT TRACTOR TRAIL

CUSTOMER

ADDRESS

LOCATION

ATTACHMENT 2

PREVAILING WAGE INFORMATION

General Decision Number: TX180007 01/05/2018 TX7

Superseded General Decision Number: TX20170007

State: Texas

Construction Types: Heavy and Highway

Counties: Armstrong, Carson, Crosby, Ector, Irion, Lubbock, Midland, Potter, Randall, Taylor and Tom Green Counties in Texas.

HEAVY & HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018

* SUTX2011-002 08/02/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving & Structures)	$ 13.55	
ELECTRICIAN	$ 20.96	
FORM BUILDER/FORM SETTER		
Paving & Curb	$ 12.36	
Structures	$ 13.52	

LABORER
Asphalt Raker.....$ 12.28
Flagger.....$ 9.30
Laborer, Common.....$ 10.30
Laborer, Utility.....$ 11.80
Work Zone Barricade Servicer.....$ 10.30

POWER EQUIPMENT OPERATOR:
Asphalt Distributer.....$ 14.87
Asphalt Paving Machine.....$ 13.40
Broom and Sweeper.....$ 11.21
Crane, Lattice Boom 80 Tons or Less.....$ 16.82
Crawler Tractor Operator....$ 13.96
Excavator, 50,000 lbs or less.....$ 13.46
Front End Loader Operator, Over 3 CY.....$ 12.77
Front End Loader, 3CY or less.....$ 12.28
Loader/Backhoe.....$ 14.18
Mechanic.....$ 20.14
Milling Machine.....$ 15.54
Motor Grader, Rough.....$ 16.15
Motor Grader, Fine.....$ 17.49
Pavement Marking Machine....$ 16.42
Reclaimer/Pulverizer.....$ 12.85
Roller, Asphalt.....$ 10.95
Roller, Other.....$ 10.36
Scraper.....$ 10.61
Spreader Box.....$ 12.60

Servicer.....$ 13.98

Steel Worker (Reinforcing).....$ 13.50

TRUCK DRIVER
Lowboy-Float.....$ 14.46
Single Axle.....$ 12.74
Single or Tandem Axle Dump..$ 11.33
Tandem Axle Tractor with Semi.....$ 12.49

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year.

Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates

the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISION

Checklist of Required Certifications and Documentation:

____BID SUBMISSION FORM

____BID BOND

____REFERENCES

____INSURANCE CERTIFICATION OR BINDER CERTIFICATION

____WORKERS' COMPENSATION AFFIDAVIT

____CIVIL RIGHTS COMPLIANCE

____GOVERNMENT CODE 2270 AFFIDAVIT

____BID AFFIDAVIT

____FORM 1295 – TEXAS ETHICS COMMISSION

BID SUBMISSION FORM

REQUEST FOR BID (RFB) 18-024
NATURAL GAS LINE INSTALLATION

PROJECT TOTAL COST $_____

EARLIEST START DATE _____

PROJECT COMPLETION DATE / TIME TO COMPLETE _____

All bid items reflect F.O.B. destination: If otherwise please state. _____

Warranty – Material and Workmanship: _____ months

Explain Warranty _____
_____
_____

Payment Discount: Please specify any payment discount or mark as N/A: Days: NET_____ Percent (%) _____

In accordance with the terms of **RFB 18-024** and with full knowledge of the terms and conditions, we agree to furnish and deliver the services specified for the prices indicated above.

It is understood by the undersigned that Tom Green County reserves the right to reject any and all bids. The undersigned affirms that they are duly authorized to execute this contract, that this proposal has not been prepared in collusion with any other Bidder, and that the contents of this proposal have not been communicated to any other bidder prior to the official opening of this bid.

The bidder hereby offers to furnish and deliver the work stated as specified above at the price and terms there stated and in strict accordance with the specification and general conditions of bidding all of which are made a part of this offer. The bidder agrees that if this response is accepted, the bid becomes a binding contract in accordance with the provisions, terms, and conditions of the bid. This bid is not subject to withdrawal.

FIRM NAME: _____

AGENT'S NAME & TITLE (Print)_____

SIGNATURE: _____

DATE: _____

ADDRESS: _____

CITY, STATE, ZIP _____

PHONE NUMBER: _____

FAX NUMBER: _____

Vendor References

Please list at least three (3) companies or governmental agencies where the same or similar products and/or services as contained in this specification package were recently provided.

THIS FORM MUST BE RETURNED WITH YOUR BID.

Reference One

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Contract Period: _____ Scope of Work: _____

Reference Two

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Contract Period: _____ Scope of Work: _____

Reference Three

Government/Company Name: _____

Address: _____

Contact Person and Title: _____

Phone: _____ Fax: _____

Contract Period: _____ Scope of Work: _____

Insurance Certification or Binder Certification

I, _____, as a duly authorized representative of _____,
(full name) (name of firm)

certify that evidence of required general liability, worker's compensation, and professional liability insurance for personnel assigned to the project and automobile insurance for any vehicles used for the project in the amounts in this RFB shall be provided to the issuer of this RFB within 10 calendar days of any Notice of Award.

Signature – Company Official	Printed/Typed Firm Name
Printed/Typed Name/Title	Date

Insurance Requirements

Worker's Compensation – Statutory Amount Employer's Liability - $500,000.00
Commercial General Liability
Personal injury and property damage:
$1,000,000.00 combined single limit each occurrence and
$2,000,000.00 aggregate
Business Automobile Liability for all vehicles
Bodily Injury and property damage:
$500,000.00 combined single limit any one accident

WORKERS' COMPENSATION AFFIDAVIT

STATE OF _____ §
COUNTY OF _____ §

BEFORE ME, the undersigned authority, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument and, being by me first duly sworn, upon oath declared that the statements and capacity acted in are true and correct.

I, _____ am a duly authorized officer of _,
and hereby certify that all "persons providing services on the project" will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commissioners' Division of Self-Insurance Regulation. Providing false or misleading information may subject the company to administrative penalties, criminal penalties, civil penalties or other civil actions.

I furthermore certify that the company will provide, to Tom Green County, certificates of coverage showing statutory workers' compensation insurance coverage for all "persons providing services on the project", including all entities.

I hereby acknowledge that "persons providing services on the project" includes all persons or entities performing all or part of the services the company has undertaken to perform on the project, regardless of whether that person contracted directly with the company and regardless of whether that person has employees. This includes, without limitation, independent companies, contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity that furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor transportation, or other service related to the project. "Services" do not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

I furthermore acknowledge that failure to comply with any of these provisions is a breach of contract by the company which entitles Tom Green County to declare the contract void if the company does not remedy the breach within ten days after receipt of notice of breach from Tom Green County.

By:_____ Title: _____

Signature: _____ Company: _____

Subscribed and sworn to before me, this _____ day of _____,_____to certify which witness my hand and seal of office:

_____
Notary Public

CIVIL RIGHTS COMPLIANCE

1. Nondiscrimination

The Project Delivery Firm, 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 Project Delivery Firm shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 and Part 710.405(b) of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

2. Solicitations for Subcontracts Including Procurement of Materials and Equipment

In all solicitations either by competitive bidding or negotiation made by the Project Delivery Firm 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 Project Delivery Firm of its obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, sex, or national origin.

Signature – Company Official	Printed/Typed Firm Name
Printed/Typed Name/Title	Date

GOVERNMENT CODE 2270 AFFIDAVIT

I, _____,
(Person's Name)

the undersigned representative of _____
(Company or Business Name)

(hereafter referred to as company) being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath that the company named-above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:

1. Does not boycott Israel currently; and

2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.001, Texas Government Code:
1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and

2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.

_____ _____
DATE SIGNATURE OF COMPANY REPRESENTATIVE

On this the _____ day of _____, 20____, personally appeared

_____, the above-named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

NOTARY SEAL

_____
NOTARY SIGNATURE

_____
Date

BID AFFIDAVIT

The undersigned certifies that the bid prices contained in this bid have been carefully checked and are submitted as correct and final and if bid is accepted (within 90 days unless otherwise noted by vendor), agrees to furnish any and/or all items upon which prices are offered, at the price(s) and upon the conditions contained in the Specifications.

STATE OF _____ COUNTY OF _____ BEFORE ME, the undersigned authority, a Notary Public in and for the State of _____, on this day personally appeared _____who, after having first been duly sworn, upon oath did depose and say;

That the foregoing proposal submitted by _____
hereinafter called "Bidder" is the duly authorized agent of said company and that the person signing said proposal has been duly authorized to execute the same. Bidder affirms that they are duly authorized to execute this contract, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other Bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this bid.

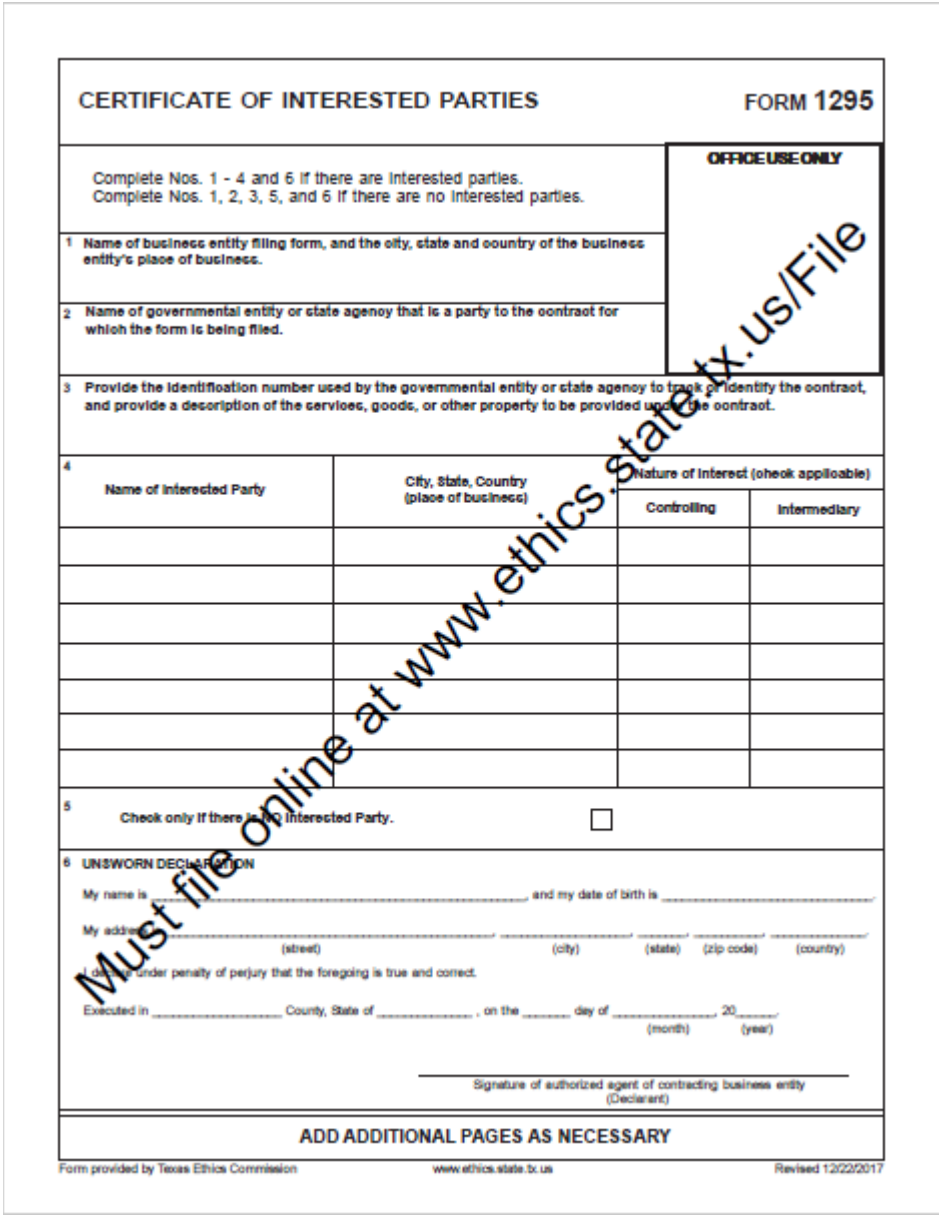
Respondent hereby assigns to purchaser any and all claims for overcharges associated with this Contract which arise under the antitrust laws of the United States, 15 USCA Section 1 et seq., and which arise under the antitrust laws of the State of Texas, Tex. Bus. & Com. Code, Section 15.01, et seq.

_____	_____
Printed Name of Vendor	Company Name
_____	_____
Signature of Vendor	Title
_____	_____/_____
Address of Vendor	Telephone Number / Fax Number
_____	_____
City, State, Zip	Email Address

Subscribed and sworn to before me by _____on this day of _____, 20___.

Notary Public in and for the State of _____

COMPLETE FORM 1295 ONLINE AT THE TEXAS ETHICS COMMISSION AND INCLUDE A COPY WITH YOUR BID RESPONSE



CERTIFICATE OF INTERESTED PARTIES FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

EXHIBIT A - CONFLICT OF INTEREST QUESTIONNAIRE

CONFLICT OF INTEREST QUESTIONNAIRE — FORM CIQ

For vendor or other person doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 1491, 80th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. *See* Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of person who has a business relationship with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.**

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 **Name of local government officer with whom filer has employment or business relationship.**

_____
Name of Officer

This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?

☐ Yes ☐ No

B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐ Yes ☐ No

D. Describe each employment or business relationship with the local government officer named in this section.

4

_____ _____
Signature of person doing business with the governmental entity Date

EXHIBIT B

FORM W-9 REQUEST FOR TAXPAYER IDENTIFICATION NUMBER

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ►
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number
___ – ___ – ____

or

Employer identification number
___ – _____

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here Signature of U.S. person ► Date ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Cat. No. 10231X Form **W-9** (Rev. 12-2014)

EXHIBIT C
GEOTECHNICAL REPORT

SKG ENGINEERING, LLC

Geotechnical Report

Proposed Tom Green County

Detention Facility

North US Highway 277

Tom Green County, Texas

PREPARED FOR:
Honorable Judge Floyd
Tom Green County Judge
122 West Beauregard
San Angelo, Texas 76903

2/24/16
SKG Engineering, LLC
F-7608

January 2016

15-E-1560

SKG
ENGINEERING, LLC
FIRM REGISTRATION NUMBER F-7608
SURVEYING ♦ ENVIRONMENTAL ♦ LAB/CMT

706 SOUTH ABE STREET
SAN ANGELO, TEXAS 76903

PHONE: 325.655.1288
FAX: 325.657.8189

February 24, 2016 15-E-1560

Honorable Judge Floyd
Tom Green County Judge
122 West Beauregard
San Angelo, Texas 76903

Subject: Final Geotechnical Report, Proposed Tom Green County Detention Facility, North US Highway 277, Tom Green County, Texas

Honorable Judge Floyd,

In accordance with your authorization, SKG Engineering has completed its geotechnical investigation at the referenced site. The work was done in accordance with the proposal dated the 19th day of November, 2015. The data and results are included in the attached report.

If you have any questions or comments, or if we can be of any more service to you, please do not hesitate to contact us at (325) 655-1288.

Sincerely,
SKG Engineering, LLC

Jason Clinton, P.E.

SKG Engineering, LLC
F-7608

Attachments - Geotechnical Report

CC: File

\\SKG-SBS\Shared\Engineering\2015\15E1560 KFA Architects - Tom Green Co Jail Site\Final Geotechnical Investigation\Geotechnical Report.doc

Table of Contents

Attachments

1.0 Introduction

1.1 Overview

The purpose of this exploration was to determine subsurface materials and conditions and to establish the characteristics of these materials in order to recommend the criteria by which to establish foundation and pavement recommendations for the proposed single story detention facility. A summary of field conditions is included in Attachment A.

2.0 Exploration

2.1 Soil Borings

The subsurface explorations were conducted on this site in January and February 2016. The site generally slopes from the northwest to south and east. The adjacent sites appear to generally slope the same direction, with the exception of Highway 67 to the north of the site. The site was grubbed and cleared for this project. The grubbing left the site rough with holes from excavated trees present at the site. The site was accessible, but maneuverability across the site was hindered due to the site clearing. The boreholes were drilled to a maximum depth of 25', and the logs of these boreholes are included in this report. The drilling was performed with a truck mounted air rotary drill rig. The drilling activities were performed in accordance with accepted methods and procedures. The boreholes were conducted within the limits of the proposed building and parking areas. A location map showing the approximate borehole locations is included in Attachment B. This report was conducted after a preliminary geotechnical report, dated the 15th day of December, 2015, was performed. The boreholes conducted in the preliminary investigation were a part of the proposed final geotechnical investigation. The building was relocated approximately 100' after the preliminary geotechnical investigation was performed. The site soils are similar and this report should replace the preliminary geotechnical report in its entirety. Therefore, boreholes B1, B6, B11, B17 and B22 were all conducted in the preliminary report and will not be included in this report. B38 and B39 were not accessible at the time of this report and have been excluded.

Material samples were recovered at various depths for testing. The primary means of extracting subsurface soil samples was by the use of a 3" Shelby-tube and/or a 2" O.D. split barrel sampler. Split spoon sampling procedures were performed in accordance with ASTM D 1586 and Shelby tube samples were obtained in accordance with ASTM D 1587. The samples were extruded or removed in the field and placed in moisture tight bags and labeled. The samples were then transported to the laboratory for testing and visual evaluation by geotechnical personnel. The Unified Soil Classification System was utilized in accordance with ASTM D 2487 to verify field classifications. Refer to the logs of borings located in Attachment C for lithology, sample locations and quantities.

2.2 Laboratory Tests

Tests were performed to determine engineering characteristics of the subsurface materials encountered including, but not limited to, soil moisture content (ASTM D 2216), Atterberg Limits (ASTM D 4318) and sieve analysis. The test results can be found in Attachment D. Samples not tested in the laboratory will be retained for a maximum of 60 days and then discarded unless otherwise notified in writing prior to disposal of the samples.

3.0 Subsurface Investigation

3.1 Site Geology

Based on the location of the site on geological maps, it is our opinion that the predominate soil is the Angelo Series, Angelo clay loam (Ana). These particular soils are indicative of nearly level to gently sloping topography on smooth outwashed plains. These soils are well drained and have slow surface runoff. Shrink-swell potential and soil corrosivity to uncoated steel are moderate. Based on the location of the site and soil conditions we do not foresee any adverse issues related to elevated sulfate concentrations.

3.2 Subsurface Materials and Conditions

The specific subsurface stratum encountered in each borehole is described in the logs of boreholes included in Attachment C. The strata encountered at the boreholes conducted at the site can be divided into three major strata. The first stratum is a layer of lean clay that extends from a depth of 0' to 7'. The second soil stratum consists of clayey sand that extends from a depth of 7' to 18'. The third stratum consists of lean clay that extends from 18' to the depth of the boreholes.

The subsurface stratum varies from those stated above as follows:

B2 – Silty sand encountered at a depth of 7 feet;
B3 - Clayey sand encountered at a depth of 3 feet;
B3 – Silty sand encountered at a depth of 13 feet to the depth of the borehole;
B4 – Clayey sand with gravel encountered at the surface;
B4 – Silty sand with gravel encountered at a depth 7 feet;
B5 – Cemented clayey sand with gravel encountered at a depth of 2 feet to a depth of 4 feet;
B5 – Silty sand encountered at a depth of 8 feet;
B7 – Silt with sand was encountered at the surface;
B7 – Clayey sand encountered at a depth of 3 feet;
B8 – Silty with sand was encountered at the surface;
B9 – Silty sand with gravel encountered at a depth of 8 feet:
B9 – Lean clay encountered at a depth of 13 feet;
B10 – Silt with sand encountered at the surface;
B10 – Silty sand encountered at a depth of 12 feet to the depth of the borehole;
B12 – Fat clay encountered at 18 feet;
B14 – Clayey sand encountered at the surface;
B14 – Lean clay encountered at a depth of 13 feet;
B16 – Clayey sand was encountered at a depth of 3 feet;
B18 – Clayey sand with gravel was encountered at the surface;
B18 – Sand with gravel encountered at a depth of 22 feet to the depth of the borehole;
B19 – Clayey sand with gravel was encountered at the surface;
B19 – Sand with gravel encountered at a depth of 23 feet to the depth of the borehole;
B20 – Clayey sand with gravel was encountered at a depth of 2 feet to the depth of the borehole;
B21 – Fat clay encountered at a depth of 13 feet;
B23 – Silty sand encountered at a depth of 8 feet;
B25 – Silty sand encountered at a depth of 2 feet;
B26 – Silt with sand encountered at the surface to the depth of the borehole;
B27 – Silty sand with gravel encountered at the surface to the depth of the borehole;
B29 – Clayey sand with gravel encountered at the surface to the depth of the borehole;
B30 – Clayey sand with gravel encountered at the surface to the depth of the borehole;

B31 – Sandy silt encountered at a depth of 2 feet;
B32 – Clayey sand encountered at the surface to the depth of the borehole;
B34 – Fat clay encountered at the surface to a depth of 3 feet;
B34 – Silty sand encountered at a depth of 3 feet to the depth of the borehole;
B35 – Clayey sand with gravel encountered at a depth of 2 feet to the depth of the borehole;
B37 – Silty sand with gravel encountered at the surface to the depth of the borehole.

3.3 Subsurface Water

There was no groundwater noted in any of the boreholes at the time of the investigation. The absence of groundwater noted does not express or imply a groundwater study was performed, which is beyond the scope of this report. It should be noted that groundwater levels are subject to change based on seasonal and climatic conditions.

4.0 Site and Design Considerations

4.1 Basic Considerations

The properties of in-situ soils, site characteristics, and the level of tolerable deflection should be carefully considered during the design phase. A foundation should economically meet the functional requirements of the structure and minimize differential movement of the structure that could cause damage.

There are existing grubbed tree roots and organics at the site. The tree roots and organics are in the area of the proposed building and pavement areas. The tree roots and organics should be removed in their entirety and site soils should be used to fill the excavated areas. The fill should be placed and compacted in accordance with the SITE PREPARATION section of this report.

The depth and hardness of the subsurface cemented soil strata present varies across the site. The seams of cemented soils noted will hinder proposed excavation activities at the site. The cemented seams were in layers and were not considered rock at the borehole locations. The variations should be noted by the engineer and contractor for all aspects of design and construction.

We have recommended a slab on grade foundation system with spread footings to support concentrated loads. The soils beneath the foundation system will have to be modified to accommodate the PVR at the site. We prefer the slab on grade foundation system to avoid bearing piers into different soil strata, which has more potential for differential settlement.

Routing of drainage should be addressed in the design phase of the project to ensure drainage is routed away and around proposed foundation systems and erosive conditions on the moderate slopes are avoided.

4.2 Subsurface Moisture

Water, in the form of a liquid, can rise upward through subsurface soils by capillary action, absorption or gravitational pull well above the water table. Water changes from a liquid to a vapor as it evaporates. Water vapor will move from areas of high vapor pressure to a lower vapor pressure through diffusion. Diffusion is how water vapor distributes itself above the water table and occurs in both soils and concrete.

It is generally recognized that the relative humidity in the soils below a foundation will be close to 100%. Such a high relative humidity is reached even when the moisture content in the material below the

foundation is found to be low. Without a capillary break or vapor barrier below the foundation, a high relative humidity or water source below a foundation can contribute moisture to the concrete. This can cause soluble alkalis in the concrete to enter into solution thus raising the pH. Moisture induced pH levels in concrete can be on the range of 10 to 12 while normal cured levels can be on the range of 7 to 9.

The impact of subsurface moisture can be reduced by the use of a vapor barrier or capillary break. A vapor barrier below the foundation is recommended when floor coverings or adhesives are sensitive to moisture or alkaline conditions. A vapor barrier can be in the form of poly vinyl sheets and a capillary break can be a sand or granular base. Verification of the vapor emission limitations from the foundation is vital to the selection of the proper vapor barrier system.

4.3 Shrink/Swell Considerations

Shrink/swell movements of the in-situ soils with changes in the soil moisture content are anticipated to be medium at the site. The Potential Vertical Rise(PVR) was calculated to be on the order of 1-1/2" using the McDowell PVR Method. The PVR was approximated using the McDowell's initial dry soil condition and a potential active zone to fifteen feet below grade. The intent of this section is to provide for a soil removal and replacement for the depths noted below. No finished floor elevations were provided at the time of this report and consideration of specific elevations would have to be reviewed when additional information is available.

The PVR can be reduced to be on the order of 1" by providing a 3' layer of engineered fill below the foundation. The PVR can be reduced to be on the order of ½" by providing a 10' layer of engineered fill below the foundation. When engineered fill is utilized to reduce the PVR, the continuous footings have to bear at the same depth as the depth of the engineered fill or engineered fill should be placed below the grade beam to accomplish the required depth. Refer to the ENGINEERED FILL section for placement and specifications.

The PVR and moreover foundation movement is effected by many factors that influence its magnitude and rate of change. Factors include: seasonal variations in the moisture content between the interior and perimeter of the foundation, topographic relief, vegetative cover, confining pressures, fluctuating and shallow water tables, and the composition of underlying soils. In-situ clays can expand with the introduction of moisture and shrink with decreases in moisture.

4.4 Foundation System and Recommendations

We recommend an adequately reinforced slab on grade foundation system with grade beams placed as determined by the structural engineer with spread footings to support concentrated point loads and provide lateral stability where necessary. Pier parameters are provided herein, if the structural engineer chooses to utilize a foundation supported by piers. We recommend to utilize a soil removal and replacement as specified in the section below to accommodate the architect's requirements for a maximum of 1" PVR.

4.4.1 Grade Supported Foundation

We recommend a vapor barrier in the form of a poly vinyl sheet directly beneath the foundation with a minimum 8" thick layer of granular base beneath the vapor barrier and a minimum 3' layer of engineered fill beneath the base or as required to bring the finished floor elevation to design grade. Footings shall bear to a depth of 3' below existing grade or engineered fill shall be provided below the perimeter grade beams to a depth of 3' below existing grade to accommodate the soil modification plan. A depth of 12" shall be utilized for the design frost depth. We recommend the poly vinyl vapor barrier to be a minimum

10 ml thickness. The placement of these materials shall be in accordance with the SITE PREPARATION section of this report. We recommend for the poly vinyl to be installed over a sand bed of approximately 1" thick to minimize tears in the vinyl experienced when installed over a granular base. We recommend installing the vapor barrier in a manner to minimize tears and abrasions to the vinyl. We recommend doing a pre-pour inspection to verify that the vinyl is not torn and if so, that it is taped up and sealed, prior to placement of concrete.

We recommend grade beams not supported by piers to be a minimum of 15" wide, the dimensions of spread footings should be a minimum of 30" on all sides, and all footings properly reinforced for the anticipated design loads to minimize the possibility of a local bearing capacity failure.

Shallow continuous footings used for any portion of the foundation system should be structurally tied to the grade beams, spread footings, piers or other structural elements. We recommend bearing the footings a minimum of 1' below finished grade. The allowable bearing pressure exerted by the grade beams or spread footings on the in-situ soils from a depth of 1' to 2' is 2,100 psf and from a depth of 2' to 4' is 2,900 psf. The value of 125 pci for subgrade modulus may be used for design purposes. The value of 28 degrees may be utilized for the internal friction angle of the clayey soils for design purposes. The value of 0.35 for the ultimate lateral sliding resistance coefficient may be utilized for design in regard to the foundation on an engineered fill. The allowable bearing pressure exerted by grade beams bearing into an engineered fill, placed in accordance with the specifications in SITE PREPARATION of this report, is 3,500 psf.

4.4.2 Drilled Piers

Floor slabs that have a high performance criteria and a low tolerance for movement should be structurally suspended on piers. Void cartons should be utilized under grade beams and the slab. The void cartons should be a minimum of 10" thick. If a crawlspace is provided, it should be graded to drain so that water is not permitted to accumulate beneath the floor slab. We recommend to install a vapor barrier for the proposed crawl spaces. We recommend the poly vinyl vapor barrier to be a minimum 10 ml thickness. We do not recommend the use of trapezoidal void forms, due to the varied results of concrete placement typically experienced. Walls loads should be transmitted to the drilled piers by grade beams and the grade beam should be structurally connected to the piers.

Straight shaft or belled piers can be used for foundation support where column loads are less than 150 kips. The piers should bear a minimum of 18' up to 22' below existing grade, bearing into the firm clay. The piers should be located below the active zone and founded on a firm, stable stratum. We recommend foregoing utilizing side shear resistance for the allowable bearing capacity of the piers between 0 and 10 feet of depth. The piers can be designed with an allowable side shear resistance of 450 psf for the portion of shaft extending from a depth of 10' to the depth of the borehole, in addition to the allowable end bearing pressure stated below. An allowable side shear resistance of 350 psf for the portion of shaft extending from a depth of 10' to the depth of the borehole may be utilized for uplift resistance. The allowable lateral bearing of the piers on the clayey soils may be taken as 150 psf/f. Field adjustments to some shafts depths may be required due to the variation in the site elevations and varied soils encountered. The allowable end bearing pressure exerted by the piers on the soils 18' to 22' below existing grade is 10,500 psf.

We recommend a minimum and maximum shaft diameter of 24" and 42", respectively for piers. The bell to shaft diameter ratio should not exceed 3.0. It should also be noted that bells in excess of 60" in iameter may become more difficult to construct due to the potential of caving or sloughing. The maximum slope

angle of the underreamed bell should not exceed 45 degrees. Adjacent piers should maintain a minimum center to center spacing of 3 times the end bearing diameter. Piers spaced as specified do not require a reduction in the load carrying capacity of the individual piers due to group action.

Settlement of properly constructed piers are estimated to be less than ½" for loads of 150 kips or less. Additional settlement may occur if the load exceeds 150 kips.

Piers should be inspected for proper size, depth and reinforcement placement prior to the placement of any concrete. It is essential that the bearing stratum of the piers be identified by the engineer or his representative. A representative from SKG Engineering should be present during drilling activities to approve the bearing strata. Each pier excavation should be completed and concrete placed within one day. In no instance should any pier excavation be left open overnight. We recommend alternating the drilling and placement of concrete for shafts in groups. Foundation concrete should be placed in clean, dry holes. Bottoms of pier excavation should be cleared of loose debris prior to the placement of concrete.

We anticipate temporary pier casing will have to be used to prevent caving or sloughing of the hole during pier drilling operations, due to the subsurface stratum.

4.4.3 Uplift Loads

The piers could experience tensile loads as a result of post construction heave of the clay soils. The shafts must contain sufficient reinforcing steel for the length of the shaft to accommodate the net tensile loads. There are several factors affecting the magnitude of the loads, such as; shaft diameter, soil parameters and in-situ moisture levels during and after construction. However, due to subsurface conditions, any soil induced uplift pressures will be offset by the dead load of the pier itself; therefore, vertical tension reinforcement steel is not required.

4.5 Seismic Design Criteria

We have provided the seismic criteria for use in the structural design phase of the project. The seismic criteria is based on the 2012 International Building Code. The stratum referenced in this section refer to those described in the section SUBSURFACE MATERIALS AND CONDITIONS of this report. Please refer to the following table for seismic design parameters.

Mapped Spectral Response Acceleration					
Description	Site Class	Short Periods (S_s)	1 Second Period (S_1)	Site Coefficients	
				F_a	F_v
Stratum I&II	D	0.09g	0.04g	1.6	2.4
Stratum III	C	0.09g	0.04g	1.2	1.7

The International Building Code (IBC) requires a site soil profile determination extending a depth of 100 feet for seismic site classification. The scope of our geotechnical services requested does not include the 100 foot soil profile determination. Additional services can be performed if requested or required, since our scope terminated the boreholes at a depth of 30 feet. We would recommend utilizing a Seismic Site Classification of C for this site, based on the soil conditions to a depth of 30 feet.

4.6 Lateral Design Criteria

Retaining walls that are sensitive to movements on the order of 1-½" should be supported by piers bearing a minimum of 15' below existing grade in a firm stable stratum. We recommend that wall footings bear a minimum of 2' below finished grade and be designed to withstand the lateral forces applied by earth pressures described below. The footings should not exceed the allowable bearing capacity of the soil on which it bears. The allowable passive earth pressure is 298 psf/ft of the depth, to a maximum of 1,500 psf.

Lateral earth pressures acting on the retaining walls will depend on several parameters such as; backfill used, drainage conditions and loads of adjacent structures. Recommended lateral earth pressures expressed as equivalent fluid pressures are presented below. The pressures below are assuming positive drainage is provided to prevent hydrostatic pressures.

Equivalent Fluid Pressures		
Material	At Rest (psf/ft)	Active (psf/ft)
Stratum I,II&III	100	60
Engineered Fill	55	35

4.7 Backfill Material and Compaction

Retaining walls should be backfilled with a 12" width of pea gravel for the height of the wall. Backfill behind the pea gravel should be a non-expansive fill material with a maximum particle size of 4" nominal diameter three quarters of the wall height and a clay cap on the top quarter of the wall height. We recommend providing weep holes along the bottom of the retaining wall height at 10' on center maximum spacing for the length of the wall. We recommend placing fill in maximum 8" loose lifts and compacted to between 93% to 97% of the Standard Proctor Density. Compaction tests should be performed on each lift.

4.8 Drainage

Positive drainage away from the foundation must be provided and maintained to reduce subsurface moisture variations. The minimum recommended slope away from the foundation is 5% for the first 10 feet for areas not covered by a sidewalk or pavement. Water shall not be permitted to pond on the finished site.

Due to the presence of in-situ clays, we recommend through the design and construction phase an emphasis on maintaining a stable moisture content in the soils beneath and adjacent to the foundation be a major priority. Temporary and permanent control measures should be properly designed and installed to ensure positive drainage away from the foundation to maintain a quasi stable soil moisture content. The measures include, but are not limited to gutters, sprinkler systems, and a site grading plan.

4.9 Underground Utilities

The backfill material used for underground utility trenches should be on-site materials or imported clayey materials. We recommend not using a granular material to avoid the possibility of water migration through the trenches and possibly under foundation systems at the site.

4.10 Exterior Flatwork Considerations

Engineered fill shall be used as needed to bring the flatwork to grade. Control joints should be cut at a maximum spacing of 6' for the length of the flatwork and expansion joints at a maximum spacing of 50'. We recommend installing flatwork as not to impound water adjacent to structural foundations.

4.11 Trenching and Excavation Requirements

The guidelines specified by Occupational Safety and Health Administration (OSHA) should be followed for all excavation activities. The OSHA Standards (29 CFR Part 1926 revised, 1989) require all trenches that exceed 5' in depth to be shored or benched appropriately unless the soil stratum is "solid" rock.

The OSHA standards should be strictly adhered to for all excavation activities. The classification of the soils encountered at the site are Type C soils. The soil classifications are based on soils encountered in the boreholes conducted at the site. Refer to the following OSHA Table B-1 for slope requirements for excavations that are less than 20 feet in depth. Trenches in excess of 20 feet in depth should be designed by a registered professional engineer.

Maximum Allowable Slopes		
Stratum	Horizontal	Vertical
Stable Rock	Vertical	1
Type A	3/4	1
Type B	1	1
Type C	1-1/2	1

The above information is provided for temporary excavations. We recommend that any permanent trenches proposed for the site should have a minimum of 4:1 side slopes. Any permanent trenches or channels should be lined with erosion control measures.

5.0 Site Preparation

5.1 Subgrade

Remove the top 6" of surface soils, any deleterious material, and in-situ soils as necessary to bring the finished floor elevation to design grade. The top 6" of material should then be scarified, moisture conditioned, and compacted to at least 95% of the Standard Proctor Density within 2% points of the optimum moisture content. Any soft or pumping areas are to be excavated and an engineered fill shall be used as backfill. Where existing slopes exceed ten horizontal to one vertical, the cross slope should be benched to provide a minimum of 6' bench width.

5.2 Engineered Fill

An approved select fill shall be used to bring the foundation system to grade. It shall be a non-granular, cohesive soil, free of deleterious material, have a liquid limit of less than 40, and a plasticity index between 6 and 14. The select fill shall meet the following percent retained on sieve requirements: 2-1/2": 0-5%, No. 4: 40-80%, and No. 40: 50-85% or obtain approval from the geotechnical engineer. The fill should be installed in maximum eight inch loose lifts and compacted to at least 95% of the Standard Proctor Density within 3% points of the optimum moisture content. Base consisting of TxDOT Type A, Grade 2 limestone will be accepted as engineered fill. Blended materials utilized for engineered fill will have to meet the specifications herein and be approved by the geotechnical engineer. If a blended material is approved, the contractor shall blend the material and have one stockpile for the entire project. Continuous blending of material throughout the duration of the project is not acceptable.

5.3 Flexible Base Material

Provide compacted base consisting of Type A, Grade 2, limestone material below the foundation. Compact to 96% of the Standard Proctor Density within 2% points of the optimum moisture content.

Material shall be placed in lifts not to exceed 8". Alternative flexible base materials provided by a local suppliers which do not meet theses specifications shall be approved by the Engineer of record.

5.4 Testing

Test results of the engineered fill shall be submitted to the engineer of record for approval prior to incorporating into the work. Arrange for a testing agency to verify flexible base, engineered fill, and subgrade compaction and moisture content. To confirm the compaction of the subgrade, engineered fill, and base we recommend the more stringent of three density test for each lift placed or one density test for every 2,000 square feet of foundation area for each lift placed. The Standard Proctor Density shall be determined in accordance with ASTM D698.

6.0 Pavement Design and Criteria

6.1 Considerations

Concrete or asphalt paving may be used to surface the area for access and parking. Concrete paving is recommended at entrances and areas that will be subject to truck and dumpster traffic. The pavements may be subject to slight differential movement due to underlying clays. Pavement grades should be greater than 1.0% and curb and gutter grades should be greater than 0.4%. Positive drainage shall be provided to prevent water from ponding.

"Light and Medium Duty" pavement is intended for parking areas and other lightly traveled areas. "Heavy Duty" pavement is intended for drives, loading areas, and highly used areas subject to heavier traffic loads. Light, medium, and heavy duty pavement sections were evaluated using procedures from the AASHTO Guide for Design of Pavement Structures. Assumptions used in the design include: a serviceability loss of 2.5, a 90% reliability, a standard deviation of 0.40%, and a soil resilient modulus of 6,000 psi. Traffic design values used for this report are: 50,000 ESALs for light duty, 100,000 ESALs for medium duty, and 200,000 ESALs for heavy duty pavement. In the event site specific traffic conditions vary from these design values, contact the engineer of record for supplemental pavement designs.

6.2 Asphalt Pavement

Areas to receive asphalt pavement should have the top 6" of surface soils and any deleterious material removed, cut to subgrade elevation, and then proof rolled. Any soft spots found during the proof rolling should be removed and filled back to grade. The top six inches of subgrade should be scarified and compacted to at least 95% Standard Proctor Density within 2% points of the optimum moisture content. At the contractor's option, 6% to 12% lime may be added to the subgrade during the scarifying process to stabilize soil and possibly achieve compaction with less effort and pumping of the clayey soils. Where additional fill is required, an engineered fill placed in accordance with the ENGINEERED FILL section of this report may be used. The flexible base shall be compacted to at least 97% Standard Proctor Density. The Hot Mix Asphalt Concrete (HMAC) shall be Type D or C dense graded hot-mix asphalt meeting the requirements of TxDOT Item 341. HMAC base shall be Type A or B dense graded hot-mix asphalt meeting the requirements of TxDOT Item 341. The pavement schedule below provides options for the pavement sections based on different ESAL levels.

HMAC over Granular Base			
Pavement Component	Traffic Design ESALs		
	50,000	100,000	200,000
	Thickness (inches)		
HMAC (A_1=0.44)	2.00	2.25	2.50
Crushed Stone Base (A_2=0.18)	7.50	8.50	9.00
Compacted Subgrade	6.00	6.00	6.00

Full Depth HMAC			
Pavement Component	Traffic Design ESALs		
	50,000	100,000	200,000
	Thickness (inches)		
HMAC (A_1=0.44)	2.00	2.25	2.25
HMAC Base (A_2=0.35)	4.00	4.50	5.00
Compacted Subgrade	6.00	6.00	6.00

6.3 Concrete Pavement

Areas to receive concrete paving should have the top 6" of surface soil, any deleterious material removed, cut to subgrade elevation, and then proof rolled. Any soft spots found during the proof rolling should be removed and filled back to grade. The top six inches of subgrade should be scarified and compacted to at least 95% Standard Proctor Density. At the contractor's option, 6% to 12% lime may be added to the subgrade during the scarifying process to stabilize soil and possibly achieve compaction with less effort and pumping of the clayey soils. Where additional fill is required, an engineered fill placed in accordance with the ENGINEERED FILL section of this report may be used. The concrete shall have a minimum 28 day compressive strength of 3,000 psi and an air content between 3 and 6%. Light and Medium duty concrete pavement shall be reinforced with #4 bars at 24" centers each way, at a minimum. Heavy duty concrete pavement shall be reinforced with a minimum #4 bars at 18" centers each way. It is recommended that #4 bars at 12" centers each way be used in the area where the front wheels of the trash truck stop in front of the dumpster that may be located on the site. Saw cut control joints to one fourth of the total depth at a spacing not to exceed 15' each direction. Provide expansion/contraction joints at a spacing not to exceed 60' each direction.

Concrete over Subgrade			
Pavement Component	Traffic Design ESALs		
	50,000	100,000	200,000
	Thickness (inches)		
Concrete	4.50	5.00	6.00
Compacted Subgrade	6.00	6.00	6.00

6.4 Flexible Base Material

Base materials to be utilized within the paved areas should be a crushed limestone meeting the requirements of TxDOT Item 247, Type A, Grade 2, thus having a Plasticity Index less than or equal to 12 and a Liquid Limit less than or equal to 40. The base materials should be placed in loose lifts with a compacted thickness not to exceed 8 inches per lift. Alternative flexible base materials provided by a local suppliers which do not meet theses specifications shall be approved by the Engineer of record.

7.0 Limitations

The recommendations presented in this report are based upon the information obtained from the borings performed at the site and from other information discussed in this report. This report is based upon the findings from the borings made and may not identify all subsurface variations which exist across the site. The nature and extent of such variations may not become evident until construction. If significant variations appear, contact SKG Engineering to further access the design criteria and the recommendations contained within this report.

The scope of services for this project does not include either specifically or by implication any environmental assessment of the site or identification of contaminated or hazardous materials or conditions. If the owner is concerned about the potential for such conditions, the appropriate investigations should be performed.

No warranties, either expressed or implied, are intended or made. In the event that changes in the nature, design, or location of the project as outlined in this report are made, the recommendations contained in this report shall not be considered valid unless SKG Engineering reviews the changes and either verifies or modifies the conclusions of this report in writing.

Attachment A

Field Conditions

Summary of Field Conditions

The following field conditions were observed during the field exploration activities.

1. The site is currently undeveloped with native trees and vegetation present at the site.

2. The surface soil conditions on the site are generally clay that is considered a soft soil material. The soil conditions will probably prove to hinder mobilization of some types of construction equipment during rain events that saturate the soils.

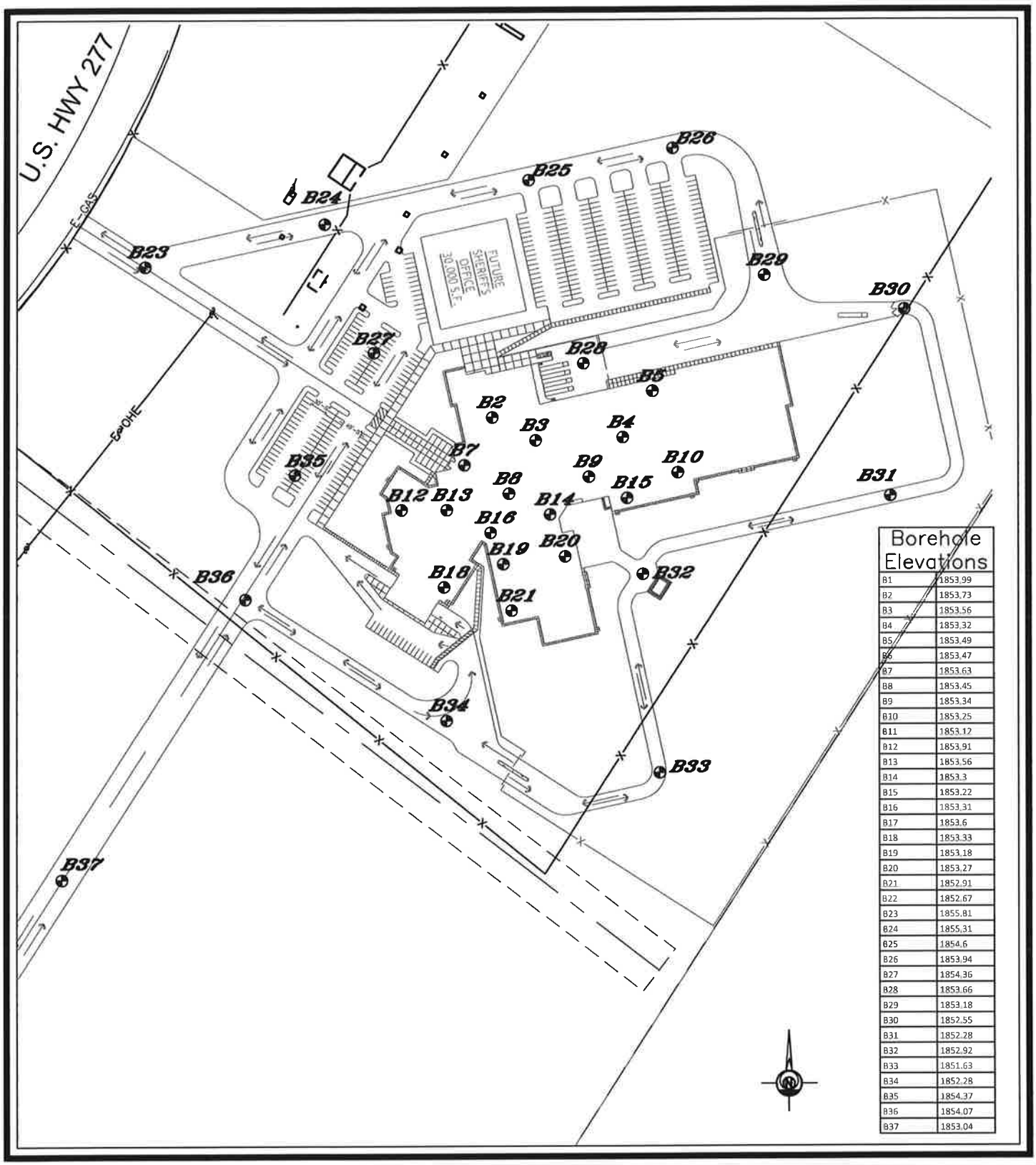
3. Groundwater was not present at the time of drilling activities in any of the boreholes.

4. No solid rock seams were encountered in any of the boreholes conducted at the site.

5. Site soils may be of quality to be used for engineered fill material under the foundation systems if it conforms to the specifications for engineered fill and installed in accordance with the SITE PREPARATION section of this report. Rubble, debris and deleterious material should be removed from the site soils if used under foundation systems.

Attachment B

Borehole Location Map



Borehole	Elevations
B1	1853.99
B2	1853.73
B3	1853.56
B4	1853.32
B5	1853.49
B6	1853.47
B7	1853.63
B8	1853.45
B9	1853.34
B10	1853.25
B11	1853.17
B12	1853.91
B13	1853.56
B14	1853.3
B15	1853.22
B16	1853.31
B17	1853.6
B18	1853.33
B19	1853.18
B20	1853.27
B21	1852.91
B22	1852.67
B23	1855.81
B24	1855.31
B25	1854.6
B26	1853.94
B27	1854.36
B28	1853.66
B29	1853.18
B30	1852.55
B31	1852.28
B32	1852.92
B33	1851.63
B34	1852.28
B35	1854.37
B36	1854.07
B37	1853.04

SKG
ENGINEERING, LLC
SURVEYING • ENVIRONMENTAL • LAB/CMT
706 SOUTH ABE STREET
SAN ANGELO, TEXAS 76903
PHONE: 325.655.1288
FAX: 325.657.8189
FIRM REGISTRATION NUMBER F-7608
www.skge.com

PROPOSED
TOM GREEN COUNTY
DETENTION FACILITY
SAN ANGELO, TEXAS

BOREHOLE LOCATION MAP

DWG BY: DLH	DWG. DATE: 02.24.2016
JOB NO. 15-E-1560	SHEET NO. BH1
SCALE: 1"=250'	

Attachment C

Logs of Boreholes

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISION			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COURSE GRAINED SOILS — MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE.	GRAVEL AND GRAVELLY SOILS — MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL GRADED GRAVELS, GRAVEL–SAND MIXTURES, LITTLE OR NO FINES.
				GP	POORLY GRADED GRAVELS OR GRAVEL–SAND MIXTURES, LITTLE OR NO FINES.
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL–SAND–SILT MIXTURES.
				GC	CLAYEY GRAVELS, GRAVEL–SAND–SILT MIXTURES.
	SILTS AND CLAYS — MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
				SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES.
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND–SILT MIXTURES.
				SC	CLAYEY SANDS, SAND–CLAY MIXTURES.
FINE GRAINED SOILS — MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE.	SILTS AND CLAYS — LIQUID LIMIT LESS THAN 50.			ML	INORGANIC SILTS AND VERY FINE SANDS, FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS AND WITH SLIGHT PLASTICITY.
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.
	SILTS AND CLAYS — LIQUID LIMIT GREATER THAN 50.			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS.
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS.

SAMPLER TYPE

SOIL TERMS	DESCRIPTION
BLOCKY	CONTAINS CRACKS OR FAILURE PLANES RESULTING IN ROUGH CUBES OF MATERIAL.
CALCAREOUS	CONTAINS APPRECIABLE QUANTITIES OF CALCIUM CARBONATE.
FISSURED	CONTAINS SHRINKAGE CRACKS, WHICH ARE FREQUENTLY FILLED WITH FINE SAND OR SILT. THE FISSURES ARE USUALLY NEAR VERTICAL IN ORIENTATION.
INTERBEDDED	COMPOSED OF ALTERNATING LAYERS OF DIFFERENT SOIL TYPES.
LAMINATED	COMPOSED OF THIN LAYERS OF VARYING COLOR AND TEXTURE.
NODULES	SECONDARY INCLUSIONS THAT APPEAR AS SMALL LUMPS ABOUT 0.1 TO 0.3 INCH IN DIAMETER.
PARTINGS	INCLUSION OF DIFFERENT MATERIAL LESS THAN ⅛ INCH THICK EXTENDING THROUGH THE SAMPLE.
POCKETS	INCLUSION OF DIFFERENT MATERIAL THAT IS SMALLER THAN THE DIAMETER OF THE SAMPLE.
SEAMS	INCLUSION OF DIFFERENT MATERIAL BETWEEN ⅛ AND 3 INCHES THICK, AND EXTENDS THROUGH THE SAMPLE.
SLICKENSIDED	HAS INCLINED PLANES OF WEAKNESS THAT ARE SLICK AND GLOSSY IN APPEARANCE. SLICKENSIDES ARE COMMONLY THOUGHT TO BE RANDOMLY ORIENTED.
STREAKS OR STAINS	STAINS OF LIMITED EXTENT THAT APPEAR AS SHORT STRIPES, SPOTS OR BLOTCHES.

ROCK TERMS	
BEDDING PLANE	A SURFACE PARALLEL TO THE SURFACE OF DEPOSITION, GENERALLY MARKED BY CHANGES IN COLOR OR GRAIN SIZE.
FRACTURE	A NATURAL BREAK IN ROCK ALONG WHICH NO DISPLACEMENT HAS OCCURED.
JOINT	A NATURAL BREAK ALONG WHICH NO DISPLACEMENT HAS OCCURED, WHICH GENERALLY INTERSECTS PRIMARY SURFACES.
% RECOVERY	THE RATIO OF TOTAL LENGTH OF RECOVERY TO THE TOTAL LENGTH OF CORE RUN, EXPRESSED AS A PERCENTAGE.
RQD - ROCK QUALITY DESIGNATION	THE RATIO OF TOTAL RECOVERED LENGTH OF FRAGMENTS LONGER THAN 4 INCHES TO THE TOTAL RUN LENGTH, EXPRESSED AS A PERCENTAGE.
WEATHERING	THE PROCESS BY WHICH ROCK IS BROKEN DOWN AND DECOMPOSED.

MOISTURE CONTENT

DRY	ABSENCE OF MOISTURE, DUSTY, DRY TO THE TOUCH.
DAMP	SOME PERCEPTIBLE MOISTURE; BELOW OPTIMUM.
MOIST	NO VISIBLE WATER; NEAR OPTIMUM MOISTURE CONTENT.
WET	VISIBLE FREE WATER, USUALLY SOIL IS BELOW WATER TABLE.

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY	POCKET PENETROMETER READING IN TONS/FT2	N-VALUE (BLOWS/FOOT)
VERY SOFT	0 TO 0.25	<2
SOFT	0.25 TO 0.5	2 TO 4
FIRM	0.5 TO 1.0	4 TO 8
STIFF	1.0 TO 2.0	8 TO 15
VERY STIFF	2.0 TO 4.0	15 TO 30
HARD	>4.0 OR 4.5+	>30

CLAY	SILT	SAND			GRAVEL		COBBLES	BOULDERS
		FINE	MEDIUM	COARSE	FINE	COARSE		
0.005mm		No.200	No.40	No.10	No.4	¾"	3"	12"

U.S. STANDARD SIEVE SIZE

RELATIVE DENSITY-GRANULAR SOILS

CONSISTENCY	N-VALUE (BLOWS/FOOT)
VERY LOOSE	0 TO 4
LOOSE	5 TO 10
MEDIUM DENSE	11 TO 30
DENSE	31 TO 50
VERY DENSE	>50 OR 50+

REFERENCE: THE UNIFIED SOIL CLASSIFICATION SYSTEM, CORPS OF ENGINEERS, U.S. ARMY TECHNICAL MEMORANDUM NO. 3–357, VOL. 1 MARCH, 1953 (REVISED APRIL, 1960)

KEY
TO SYMBOLS AND TERMS

SKG ENGINEERING

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-2

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer -JC
Driller - LC
Elevation - 1853.7

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			3/5/9	15.9	17	
		cemented layers from 2' to 3'			50-6"			
5		GWT not encountered			50-2"			
		silty SAND (SM); tan with few gravel			50-0"	10.7	24	
10								
15					50-1"			
		lean CLAY (CL); red			50-0"			
20								
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.			50-1"			
30								
35								

SKG Engineering, LLC

15-E-1560

Plate A-1

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-3

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.6

Surface Elevation:

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
0		lean CLAY (CL); brown			3/5/4			
					5/8/10			
		clayey SAND (SC); tan with few gravel			50-1"	8.1	14	
5		GWT not encountered						
10					50-1"			
		silty SAND (SM); red			50-2"	16.6	25	
15								
					50-3"			
20								
					50-1"			
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-4

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.3

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); tan with cemented layers and few gravel			50-0"	10.3	13	
					50-1"			
5					50-0"			
		silty SAND (SM); tan with gravel						
10					18/25/25	14.5	17	
15					50-1"			
		lean CLAY (CL); red						
20					50-2"			
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.			50-3"			
30								
35								

GWT not encountered

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-5

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | Date Finished: February 8, 2016

Drilling Method: Air rotary

Hammer Weight: 140 lbs | Drop: 30 inches

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.5

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); brown with gravel and cemented layers from 2' to 4'			8/6/7			
		GWT not encountered			50-0"			
5					50-0"			
		silty SAND (SM); tan			50-1"	11.2	22	
10								
15					50-0"			
		lean CLAY (CL); red			50-0"			
20								
25					50-1"			
		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

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15-E-1560

Plate A- 4

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-7

Boring Location: Refer to the borehole location map

Date Started: January 27, 2016 | **Date Finished: January 27, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.6

Depth (feet)	Lith-ology	Material Description	Samples Number	Samples Type	SPT	Laboratory M%	Laboratory PI	Laboratory Pen (tsf)
		Surface Elevation:						
0		silty SAND (SM); tan			2/6/10	9.1	18	
					50-0"			
		clayey SAND (SC); brown with gravel			3/3/2			
5								
					50-0"			
10								
					50-1"			
15								
		lean CLAY (CL); red			50-0"			
20								
					50-1"	18.4	28	
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

GWT not encountered

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15-E-1560

Plate A- 5

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-8

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.5

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		silty SAND (SM); brown			3/4/6	19.7	15	
					14/15/13			
5					15/25/25			
		clayey SAND (SC); tan with gravel						
10					50-0"			
15					50-0"	11.2	21	
		lean CLAY (CL); red						
20					50-1"			
25					50-2"			
		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

GWT not encountered

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-9

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.3

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			3/5/7			
					50-0"			
5		GWT not encountered			18/25/50	8.0	12	
		silty SAND (SM); tan with gravel						
10					9/11/25	13.2	20	
		lean CLAY (CL); red						
15					50-1"			
20					50-0"			
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.			50-1"			
30								
35								

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-10

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.3

Surface Elevation:

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
0		SILT (ML); brown with sand			3/7/9			
					10/15/20	16.2	20	
5		GWT not encountered			5/10/12			
10					7/10/8			
		silty SAND (SM); tan with few gravel			50-1"	15.1	32	
15								
20					50-0"			
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.			50-0"			
30								
35								

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-12

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.9

Surface Elevation:

Depth (feet)	Lithology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
0		lean CLAY (CL); brown			4/5/6			
					9/12/10			
5		GWT not encountered			8/13/17	8.0	14	
		clayey SAND (SC); tan						
10					14/25/25			
15					14/20/25			
		fat CLAY (CH); red						
20					13/25/50	20.3	48	
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.			50-1"			
30								
35								

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-13

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.6

Surface Elevation:

Depth (feet)	Lithology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
0		lean CLAY (CL); brown			4/5/8			
					12/13/12	9.5	21	
5					10/13/15			
		clayey SAND (SC); tan with few gravel						
10					16/25/50	11.8	27	
15					50-0"			
		lean CLAY (CL); tan						
20					50-1"			
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.			50-0"	10.1	22	
30								
35								

GWT not encountered

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-14

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.3

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); brown			3/3/5			
					50-0"	5.1	12	
5		GWT not encountered			50-2"			
10					50-1"	6.8	13	
15		lean CLAY (CL); red			50-1"			
20					50-2"			
25					50-0"			
		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-15

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.2

Surface Elevation:

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
0		lean CLAY (CL); brown			4/6/25			
					50-0"			
5		GWT not encountered			50-2"			
		clayey SAND (SC); tan with few gravel			12/25/25			
10								
					8/7/7			
15								
		lean CLAY (CL); tan			50-0"			
20								
					50-1"	6.9	17	
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-16

Boring Location: Refer to the borehole location map

Project Engineer - JC
Driller - LC
Elevation - 1853.3

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			4/5/5			
					6/8/7			
		clayey SAND (SC); tan			50-0"	6.4	18	
5		GWT not encountered						
					50-0"			
10								
					50-1"			
15								
		lean CLAY (CL); red			50-1"			
20								
					50-1"			
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-18

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 **Date Finished:** January 28, 2016

Drilling Method: Air rotary

Hammer Weight: 140 lbs **Drop:** 30 inches

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.3

Depth (feet)	Lith-ology	Material Description	Samples Number	Samples Type	Samples SPT	Laboratory M%	Laboratory PI	Laboratory Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); brown			9/7/6	10.0	15	
					6/7/10			
5		GWT not encountered			10/18/18	7.3	18	
10					50-0"			
15					50-1"	12.0	31	
20		lean CLAY (CL); tan			50-1"			
25		SAND (SP); tan with few gravel			50-0"			
		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

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15-E-1560

Plate A- *14*

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-19

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.2

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); brown			3/4/6			
					6/16/14			
		GWT not encountered			8/6/13			
5								
					6/8/10	13.8	25	
10								
					18/25/50			
15								
		lean CLAY (CL); tan			50-0"			
20								
		SAND (SP); tan with few gravel			50-1"			
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-20

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.3

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			3/5/9	20.7	20	
		clayey SAND (SC); tan with gravel			50-1"			
		GWT not encountered			50-3"			
5								
10					50-1"			
15					50-0"			
20					50-1"	12.1	28	
25		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.			50-0"			
30								
35								

SKG Engineering, LLC

15-E-1560

Plate A-16

Proposed Tom Green County Detention Center
Tom Green County, Texas

B-21

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1852.9

Depth (feet)	Lith-ology	Material Description	Samples Number	Samples Type	Samples SPT	Laboratory M%	Laboratory PI	Laboratory Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			4/5/15	15.4	20	
					50-0"			
5					50-1"			
		clayey SAND (SC); tan with few gravel						
10					50-0"			
		fat CLAY (CH); red						
15					50-1"	19.0	481	
20					50-1"			
		clayey SAND (SC); tan with few gravel						
25					50-0"			
		Boring completed at a depth of 25'. Groundwater was not present at the time of drilling activities.						
30								
35								

GWT not encountered

Proposed Tom Green County Detention Center
Tom Green County, Texas

B-23

Boring Location: Refer to the borehole location map

Date Started: January 26, 2016 | Date Finished: January 26, 2016

Drilling Method: Air rotary

Hammer Weight: 140 lbs | Drop: 30 inches

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1855.8

Surface Elevation:

Depth (feet)	Lith-ology	Material Description	Samples Number	Samples Type	Samples SPT	Laboratory M%	Laboratory PI	Laboratory Pen (tsf)
0		lean CLAY (CL); brown			3/4/4	14.9	13	
					7/12/28			
5					50-1"			
		silty SAND (SM); tan with gravel						
10					50-0"	10.8	15	
		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

GWT not encountered

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-24

Boring Location: Refer to the borehole location map

Date Started: January 26, 2016 **Date Finished:** January 26, 2016

Drilling Method: Air rotary

Hammer Weight: 140 lbs **Drop:** 30 inches

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1855.3

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			3/5/5			
					4/5/6	11.4	13	
5		GWT not encountered			50-1"			
		clayey SAND (SC); tan with gravel						
10					50-0"			
		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

Proposed Tom Green County Detention Center
Tom Green County, Texas

B-25

Boring Location: Refer to the borehole location map

Date Started: January 19, 2016 | **Date Finished: January 19, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1854.6

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			2/5/5			
		silty SAND (SC); tan			4/7/15			
5		GWT not encountered			50-1"			
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.			50-0"	14.6	17	
15								
20								
25								
30								
35								

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15-E-1560

Plate A- *20*

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-26

Boring Location: Refer to the borehole location map

Date Started: January 19, 2016 | **Date Finished: January 19, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.9

Surface Elevation:

Depth (feet)	Lith-ology	Material Description	Samples Number	Samples Type	SPT	Laboratory M%	Laboratory PI	Laboratory Pen (tsf)
0		SILT (ML); brown with sand			3/3/4	19.5	18	
					5/7/8			
5		GWT not encountered			13/20/20	15.1	15	
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.			50-0"			
15								
20								
25								
30								
35								

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15-E-1560

Plate A- *21*

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-27

Boring Location: Refer to the borehole location map

Date Started: January 19, 2016 | **Date Finished: January 19, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1854.4

Depth (feet)	Lith-ology	Material Description	Samples			Laboratory		
			Number	Type	SPT	M%	PI	Pen (tsf)
		Surface Elevation:						
0		silty SAND (SM); tan			3/5/4			
		GWT not encountered			50-0"	6.3	15	
5					50-1"			
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.			50-0"			
15								
20								
25								
30								
35								

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15-E-1560

Plate A- 22

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-28

Boring Location: Refer to the borehole location map

Date Started: January 28, 2016 | **Date Finished: January 28, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.7

Surface Elevation:

Depth (feet)	Lith-ology	Material Description	Samples Number	Samples Type	Samples SPT	Laboratory M%	Laboratory PI	Laboratory Pen (tsf)
0		lean CLAY (CL); brown			7/8/10	14.9	17	
					50-0"			
5					50-0"			
		clayey SAND (SC); tan						
10					50-1"			
		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

GWT not encountered

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-29

Boring Location: Refer to the borehole location map

Date Started: January 22, 2016 | **Date Finished: January 22, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.2

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); tan with few gravel			3/4/5			
					8/10/11			
5		GWT not encountered			11/25/31	8.3	12	
10					50-3"			
		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

SKG Engineering, LLC

15-E-1560

Plate A- *24*

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-30

Boring Location: Refer to the borehole location map

Date Started: January 22, 2016 | **Date Finished: January 22, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1852.6

Depth (feet)	Lith-ology	Material Description	Samples			Laboratory		
			Number	Type	SPT	M%	PI	Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); tan with few gravel			3/3/4			
		GWT not encountered			16/18/25	12.7	18	
5					50-1"			
10					50-0"			
		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

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15-E-1560

Plate A- 25

Project: RFB 18-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-31

Boring Location: Refer to the borehole location map

Date Started: January 26, 2016 | **Date Finished: January 26, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1852.3

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); tan			50-1"	11.4	16	
		sandy SILT (ML); tan			50-0"			
5		GWT not encountered			50-1"	11.1	8	
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.			50-0"			
15								
20								
25								
30								
35								

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15-E-1560

Plate A- *26*

Project: RFP 18-024 Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-32

Boring Location: Refer to the borehole location map

Date Started: January 22, 2016 | **Date Finished: January 22, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1852.9

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		clayey SAND (SC); tan with few gravel			4/15/25			
		GWT not encountered			50-1"	5.2	31	
5					50-1"			
10					50-3"			
		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

Proposed Tom Green County Detention Center
Tom Green County, Texas

B-33

Boring Location: Refer to the borehole location map

Date Started: January 26, 2016 | **Date Finished: January 26, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1851.6

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			2/6/8	16.7	17	
					8/9/10			
5					50-1"			
		clayey SAND (SC); tan with few gravel			50-2"			
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

GWT not encountered

Project: RFB 18-024 Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-34

Boring Location: Refer to the borehole location map

Date Started: January 26, 2016 | **Date Finished: January 26, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1852.3

Surface Elevation:

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
0		fat CLAY (CL); brown			5/6/6			
					8/12/10	15.2	24	
		GWT not encountered						
		silty SAND (SM); tan			18/25/50			
5								
					50-2"			
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

SKG Engineering, LLC

15-E-1560

Plate A- 29

Project: RFB 18-024t Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-35

Boring Location: Refer to the borehole location map

Date Started: January 26, 2016 | **Date Finished: January 26, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1854.4

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			4/3/5			
		clayey SAND (SC); tan with few gravel			50-1"	5.1	14	
5		GWT not encountered			50-2"			
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.			50-0"			
15								
20								
25								
30								
35								

SKG Engineering, LLC | **15-E-1560** | **Plate A-30**

Proposed Tom Green County Detention Center
Tom Green County, Texas

B-36

Boring Location: Refer to the borehole location map

Date Started: January 22, 2016 | **Date Finished: January 22, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1854.1

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		lean CLAY (CL); brown			3/5/10			
					8/15/20			
5		GWT not encountered			50-1"	8.6	12	
		clayey SAND (SC); tan with few gravel						
10					50-2"			
		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.						
15								
20								
25								
30								
35								

Project: RFP 16-024: Natural Gas Line Installation

Proposed Tom Green County Detention Center

Tom Green County, Texas

B-37

Boring Location: Refer to the borehole location map

Date Started: February 8, 2016 | **Date Finished: February 8, 2016**

Drilling Method: Air rotary

Hammer Weight: 140 lbs | **Drop: 30 inches**

Sampler: Shelby tube/2" split barrel sampler

Project Engineer - JC
Driller - LC
Elevation - 1853.0

Depth (feet)	Lith-ology	Material Description	Samples: Number	Samples: Type	Samples: SPT	Laboratory: M%	Laboratory: PI	Laboratory: Pen (tsf)
		Surface Elevation:						
0		silty SAND (SM); tan with gravel			50-0"			
					50-1"			
5		GWT not encountered			18/23/28	12.6	12	
10		Boring completed at a depth of 10'. Groundwater was not present at the time of drilling activities.			50-1"			
15								
20								
25								
30								
35								

SKG Engineering, LLC

15-E-1560

Plate A- 32

Attachment D

Laboratory Results

SKG
ENGINEERING, LLC
SURVEYING • ENVIRONMENTAL • LAB/CMT
706 SOUTH ABE STREET
SAN ANGELO, TEXAS 76903
PHONE: 325.655.1288
FAX: 325.657.8189

ANALYSIS RESULTS

CLIENT: Kye Franke-Kinney Franke Architects
PROJECT: Tom Green Jail
PROJECT #: 15-E-1560
DATE: 2/10/2016

Lab No.	Description	Plastic Limit (%) *	Liquid Limit (%)*	Plasticity Index *	Moisture (%) *	Pass # 4 Sieve (%)*	Pass # 40 Sieve (%)*	Pass # 200 Sieve (%)*
16-0231	B2 0' 1.5'	28	45	17	15.9	99.8	99.4	79.6
16-0232	B2 8.5' 10'	34	58	24	10.7	89.0	54.1	46.5
16-0233	B7 0' 1.5'	29	47	18	9.1	94.6	98.8	77.0
16-0234	B7 23.5' 25'	27	55	28	18.4	99.4	77.8	71.6
16-0235	B8 0' 1.5'	28	43	15	19.7	100.0	99.8	75.8
16-0236	B8 13.5' 15'	26	47	21	11.2	99.1	47.7	41.0
16-0237	B10 1.5' 3'	30	50	20	16.2	99.9	98.8	83.0
16-0238	B10 13.5' 15'	41	73	32	15.1	86.4	37.7	30.2
16-0239	B12 3.5' 5'	19	33	14	8.0	92.3	78.0	65.5
16-0240	B12 18.5' 20'	20	68	48	20.3	96.3	89.1	89.1
16-0241	B13 1.5' 3'	17	38	21	9.5	96.0	89.3	75.0
16-0242	B13 8.5' 10'	21	48	27	11.8	87.7	35.7	21.4
16-0243	B13 23.5' 25'	15	37	22	10.1	97.7	67.7	55.5
16-0244	B16 3.5' 5'	12	30	18	6.4	78.0	50.3	37.3
16-0245	B18 0' 1.5'	15	30	15	10.0	68.3	41.2	26.4
16-0246	B18 3.5' 5'	16	34	18	7.3	83.7	45.6	28.3
16-0247	B18 13.5' 15'	23	54	31	12.0	75.2	41.2	34.6
16-0248	B19 8.5' 10'	28	53	25	13.8	71.1	43.6	27.9
16-0249	B21 0' 1.5'	16	36	20	15.4	87.5	61.7	42.0
16-0250	B21 13.5' 15'	30	78	48	19.0	81.1	35.2	28.9
16-0251	B28 0' 1.5'	16	33	17	14.9	98.0	94.0	65.8

Average PL	23
Average LL	47
Average PI	24
Average % Clay	52.5

Stephanie Cheatheam

Stephanie Cheatheam
Lab/CMT Manager

SKG
ENGINEERING, LLC
SURVEYING ♦ ENVIRONMENTAL ♦ LAB/CMT
706 SOUTH ABE STREET
SAN ANGELO, TEXAS 76903
PHONE: 325.655.1288
FAX: 325.657.8189

ANALYSIS RESULTS

CLIENT: Kinney Franke Architects AIA
PROJECT: Tom Green County Jail
PROJECT #: 15-E-1560
DATE: 2/15/2016

Lab No.	Description	Plastic Limit (%) *	Liquid Limit (%)*	Plasticity Index *	Moisture (%) *	Pass # 4 Sieve (%)*	Pass # 40 Sieve (%)*	Pass # 200 Sieve (%)*
16-0266	B3 3.5' 5'	22	36	14	8.1	84.3	52.8	40.1
16-0267	B3 13.5' 15'	34	59	25	16.6	93.5	41.7	35.0
16-0268	B4 0' 1.5'	22	35	13	10.3	64.6	39.2	28.2
16-0269	B4 8.5' 10'	37	54	17	14.5	80.9	24.9	19.4
16-0270	B5 8.5' 10'	29	51	22	11.2	88.2	38.4	30.7
16-0271	B9 3.5 5'	21	33	12	8.0	93.4	63.6	52.1
16-0272	B9 8.5' 10'	38	58	20	13.2	62.7	34.9	27.9
16-0273	B14 1.5' 3'	18	30	12	5.1	90.9	30.0	16.2
16-0274	B14 8.5' 10'	23	36	13	6.8	91.8	26.5	20.7
16-0275	B15 23.5' 25'	16	33	17	6.9	98.1	56.3	50.7
16-0276	B20 0' 1.5'	27	47	20	20.7	89.9	84.4	64.2
16-0277	B20 18.5' 20'	30	58	28	12.1	86.2	38.7	34.0
16-0278	B37 0' 1.5	25	37	12	12.6	64.9	40.8	32.6

Average PL	26
Average LL	44
Average PI	17
Average % Clay	34.8

Stephanie Cheatheam

Stephanie Cheatheam
Lab/CMT Manager

SKG
ENGINEERING, LLC
SURVEYING ♦ ENVIRONMENTAL ♦ LAB/CMT
706 SOUTH ABE STREET
SAN ANGELO, TEXAS 76903
PHONE: 325.655.1288
FAX: 325.657.8189

ANALYSIS RESULTS

CLIENT: Kye Franke-Kinney Franke Architects
PROJECT: Tom Green Jail
PROJECT #: 15-E-1560
DATE: 2/6/2016

Lab No.	Description	Plastic Limit (%) *	Liquid Limit (%)*	Plasticity Index *	Moisture (%) *	Pass # 4 Sieve (%)*	Pass # 40 Sieve (%)*	Pass # 200 Sieve (%)*
16-0176	B23 0' 1.5'	21	34	13	14.9	97.2	91.9	64.4
16-0177	B23 8.5' 10'	29	44	15	10.8	91.5	31.6	15.8
16-0178	B24 1.5' 3'	22	35	13	11.4	98.9	93.7	60.0
16-0179	B25 8.5' 10'	33	50	17	14.6	94.7	37.6	31.6
16-0180	B26 0' 1.5'	30	48	18	19.5	100.0	99.6	81.7
16-0181	B26 3.5' 5'	30	45	15	15.1	97.9	83.0	69.7
16-0182	B27 1.5' 3'	26	41	15	6.3	74.6	47.3	37.9
16-0183	B30 1.5' 3'	22	40	18	12.7	80.8	62.1	45.9
16-0184	B31 0' 1.5'	22	38	16	11.4	92.1	78.1	51.6
16-0185	B31 3.5' 5'	26	34	8	11.1	90.5	74.5	54.9
16-0186	B32 1.5' 3'	20	51	31	5.2	90.3	52.0	33.3
16-0187	B33 0' 1.5'	24	41	17	16.7	99.4	95.9	67.1
16-0188	B34 1.5' 3'	28	52	24	15.2	99.3	98.5	88.7
16-0189	B35 1.5' 3'	21	35	14	5.1	66.8	40.1	26.5
16-0190	B36 3.5' 5'	20	32	12	8.6	92.1	86.1	62.0
16-0191	B29 3.5' 5'	21	33	12	8.3	90.9	80.6	66.1

Average PL	25
Average LL	41
Average PI	16
Average % Clay	53.6

Stephanie Cheatheam

Stephanie Cheatheam
Lab/CMT Manager