

## STAFF REPORT

DATE: January 31, 2024

TO: Ty Lasher, City Manager

FROM: Anne Stephens, PE, City Engineer

RE: 45<sup>th</sup> Street, Oliver to Woodlawn, Geotechnical Investigation Proposals

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### BACKGROUND:

As the City continues to work on the design for the 45<sup>th</sup> Street, Oliver to Woodlawn improvements, a pre-construction geotechnical investigation was desired to identify any concerns with the existing subgrade so considerations could be incorporated into the design for the roadway.

### DISCUSSION:

City staff worked with Garver to solicit proposals for geotechnical investigations on 45<sup>th</sup> Street from Woodlawn to Oliver to identify any potential subsurface concerns as well as provide pavement, base and subgrade treatment recommendations that meet KDOT requirements. On behalf of the City, Garver reached out to both Terracon and PEC for proposals.

PEC provided a letter agreement detailing their scope of services and expected fees. Terracon provided estimated fees in the form of an email response. After receiving both responses, Garver reached back out to both firms asking for the additional costs involved in taking additional bores – for a total of 20 each.

PEC	\$25,508.50
Terracon	\$19,700.00

Both firms noted that water levels would be observed after drilling. It was noted during the KDOT geotechnical investigations of Woodlawn that they left the drill holes open a minimum of 24 hours to provide time for the groundwater to stabilize. Terracon noted that leaving the drill holes open for 24 hours would incur an additional \$350 mobilization fee. PEC already has this cost built into their proposed fee and did not mention anything about closing down the roadway, nor keeping it closed for the groundwater observation period.

FINANCIAL CONSIDERATIONS: The cost of this work will be included in the temp note with the rest of the project costs.

POLICY DECISION: Due to recent unsatisfactory experience with one of the three main geotechnical firms in the area, staff solicited proposals from the other two main geotechnical firms.

RECOMENDATION: PEC's proposal is a bit more robust than Terracon's and they were more timely in their response to questions. That being said, both firms have good reputations within the industry and should be able to provide the City with a good look at the subsurface conditions and appropriate recommendations for the pavement section for the new roadway.

January 4, 2024

Anne Stephens, PE  
City Engineer  
City of Bel Aire  
7651 E. Central Park Ave.  
Bel Aire, KS 67226

Reference: Geotechnical Services for 45<sup>th</sup> – Oliver to Woodlawn Project

Dear Anne,

Professional Engineering Consultants, P.A. (PEC) is pleased to provide professional services to The City of Bel Aire in connection with the referenced Project.

### **Introduction**

The project is located along 45th Street between Oliver Ave. and Woodlawn Blvd. The project will consist of the reconstruction of the roadway, new intersection at 45th and Oliver, new storm sewers, and new connections with the existing side streets.

The Geologic setting of the project site is windblown loess deposits overlying shale from the Wellington Formation. The loess is comprised of silts and clayey silts. Clayey silt soils can be problematic when used in the subgrade below the pavement. The soils have propensity to swell when exposed water and become unstable when loaded. The soil also may contain high levels of sulfate. The sulfates are due to the in-place weathering of the Gypsum layers within the Wellington Shale. Gypsum is a Calcium Sulfate Dihydrate mineral that readily breaks down into calcium and sulfate. When exposed to water, the sulfate in the soil will expand and cause detrimental issues to overlying pavements. These 2 issues must be addressed during the geotechnical investigation and subsequent laboratory testing. The soils will have sulfate testing and swell-consolidation testing performed on select samples. If the tests determine that swelling soils or high sulfate levels exist, the pavement design recommendation will reflect what remediation efforts will be required.

### **Soil Borings**

We recommend taking a minimum of 12 borings along 45th street from Oliver to Woodlawn. The borings will be taken at alternating depths of 10 and 15 feet. The information will be used to assist in the design of the complete project, with a focused approach to the pavement design. The deeper borings will be utilized to provide a geologic profile along the new roadway to provide design information for the new sewer system and provide excavation properties to the contractor.

Groundwater will be measured at the end of drilling to see if additional mitigation efforts are needed on the project.

Samples taken during drilling will include shelly tube and split spoon sampling as well as bulk soil samples. The soil will be subjected to unconfined compression testing, swell/consolidation testing, sulfate testing, proctor compaction requirements, Atterberg testing and visual inspection.

### **Pavement Sections**

The new roadway is to be lowered 2 to 3 feet throughout the project. The pavement section will be determined by the results of the laboratory testing. Recommendations will be given for asphalt and concrete pavement. Subgrade drainage, which is a major component of a long-lasting pavement, will also be addressed in the recommendations.

### **Additional Services**

Additional services that can be provided by PEC include Surveying, Construction Inspection, Construction Materials Testing and Geotechnical Consultation during construction.

### **Experience**

Recent experience on roadway projects: Butler County SW Parallel Street and SW Butler Road Investigation during construction, US-54 over the canal route, Wichita, KS, CONFIDENTIAL AVIATION CLIENT roadway failure investigation, Wichita, KS, CONFIDENTIAL AVIATION CLIENT new roadway and building foundation. Independence, KS, Parking Lot and Pickle Ball Court construction, South Wichita, Topeka Blvd. from 17<sup>th</sup> to 23<sup>rd</sup> street, Topeka KS, and Reconstruction of Louisiana and 11<sup>th</sup> street in Lawrence, KS.

### **Schedule**

The drilling and sampling on this project will be conducted within 14 days of the Notice to Proceed. Laboratory Testing is expected to take 2 weeks. The full report will be issued within 1 week of the completion of the Laboratory Testing.

Thank you for the opportunity to submit our estimate on this project. Please reach out to me if there are any questions regarding this proposal.

Sincerely,



Bob Henthorne, P.G.  
Vice-President of Geotechnical Engineering  
Professional Engineering Consultants, PA  
400 S. Kansas Ave. Suite 200  
Topeka, KS 66603  
[Bob.henthorne@pec1.com](mailto:Bob.henthorne@pec1.com)  
Cell 785-480-0702



## Britt D. Clubb, PE

Britt is the Senior Vice President of Field Engineering. He provides customer service, business development, financial management, risk management, and strategic planning. He is responsible for staffing, recruiting, and staff development through coaching, mentoring, and training. Britt has been responsible for providing geotechnical engineering consulting services at PEC for the past eight years for a wide range of projects for, private, public, local, state, and federal clients. He has experience in shallow and deep foundations systems, pavement section design, lateral earth pressures, and earthwork.

### YEARS OF EXPERIENCE

18

### EDUCATION

Tennessee Technological University, Bachelor of Civil Engineering, 2006

### LICENSES/CERTIFICATIONS

Professional Engineer: Kansas, Oklahoma, Missouri, Colorado

### SELECT PROJECT EXPERIENCE

- 159th Street East, Lincoln Street to Brookhaven Street, Geotechnical Services including Two Borings, Subsurface Investigation, and Sample Collection at Boring Sites
- South Rock Road Exploratory Boring and Standard Penetration Tests
- West Irving Street Exploratory Boring and Standard Penetration Tests
- K-54 Bridge over 135th Street Soil Borings
- Confidential Aviation Client; Wichita, KS
  - Plant IV Pavement Replacement
  - East Campus Runway Repairs
  - East Campus Taxiway Delta
  - West Campus Taxiway F1
  - Pavement Repair
  - Taxiway Reconstruction
  - Road Improvements
- McConnell Air Force Base; Wichita, KS
  - Pavement Testing
  - Taxiway A South Repair
  - Taxiway E
  - Taxiway F Lighting and Paving
- Butler County Community College 5000 Building Expansion; Andover, KS
- 5th Street Paving Project, Broadway Street to Wichita Valley Center Floodway, Geotechnical Study including Subsurface Investigation and Sample Collection for Laboratory Testing and Analysis
- City of Wellington, KS
  - Westborough Street 10 Exploratory Borings and Soil Observation and Classification
  - East Harvey Avenue, South Ash Street to South Woodlawn Street, Five Exploratory Borings, Soil Observation, and Classification
- NW Vail Avenue, Gordon Street to US-24 Highway, Geotechnical Study
  - Subsurface Investigation and Sample Collection for Laboratory Testing and Analysis
  - Burlingame Road Three Exploratory Borings and Standard Penetration Tests
  - Henderson Road Six Exploratory Borings and Standard Penetration Tests
- Kansas Turnpike Open-Road Tolling, Topeka East Terminal, Geotechnical Services and Survey; Topeka, KS



## Bob Henthorne

As the Vice President of Geotechnical Engineering, Bob brings 40 years of experience and relationships in the transportation industry, primarily with local and state transportation professionals in Kansas. He most recently served as Bureau Chief at the Kansas Department of Transportation, where he led the Bureau of Structures and Geotechnical Services. Bob is a dedicated Professional Geologist leader with a history of inspiring teams to improve quality and productivity.

### YEARS OF EXPERIENCE

40

### EDUCATION

University of Kansas, Bachelor of Geology 1983

### LICENSES/CERTIFICATIONS

Professional Geologist: Kansas, Missouri, Wyoming, Nebraska

### SELECT PROJECT EXPERIENCE

- Topeka VA Medical Center Pavement Reconstruction 589A5-188; Topeka, KS
- KDOT - US-54 Flood Control Canal Bridge Design KA-0161-05; Wichita, KS
- Bancroft - Topeka VA EHRM Geotech 589A5-21-700; Topeka, KS
- Confidential Aviation Client IDP I1 Warehouse Addition; Independence, KS
- USD 259 SSC NS Dock Phase 01; Wichita, KS
- USD 375 School Support Services Building Addition; Towanda, KS
- Butler County SW Parallel Street and SW Butler Road Investigation During Construction; Butler County, KS
- Confidential Aviation Client Interplant Road Investigation; Wichita, KS
- Southlakes Pickle Ball Court Construction and Parking Lot; Wichita, KS
- Topeka Blvd. from 17th to 23rd Street; Topeka, KS
- Reconstruction of Louisiana and 11th Street; Lawrence, KS

January 4, 2024

Anne Stephens  
City Engineer  
The City of Bel Aire  
7651 E. Central Park  
Bel Aire, KS 67226

Reference: AGREEMENT for Bel Aire 14<sup>th</sup> Street – Oliver to Woodlawn  
Bel Aire, Kansas  
PEC Project No. 240XXX-000

Dear Anne:

Professional Engineering Consultants, P.A. (“PEC”) is pleased to provide professional services to The City of Bel Aire (“Client”) in connection with the referenced Project, and in accordance with this letter agreement (“Agreement”). The services to be performed by PEC (“the Services”) are described in Exhibit A – Services, Schedule, and Payment (attached and incorporated by reference) and are subject to the following terms and conditions.

**Performance.** PEC will perform the Services with the level of care and skill ordinarily exercised by other consultants of the same profession under similar circumstances, at the same time, and in the same locality. PEC agrees to perform the Services in as timely a manner as is consistent with the professional standard of care and to comply with applicable laws, regulations, codes and standards that relate to the Services and that are in effect as of the date when the Services are provided.

**Client Responsibilities.** To enable PEC to perform the Services, Client shall, at its sole expense: (1) provide all information and documentation regarding Client requirements, the existing site, and planned improvements necessary for the orderly progress of the Services; (2) designate a person to act as Client representative with authority to transmit instructions, receive instructions and information, and interpret and define Client requirements and requests regarding the Services; (3) provide access to, and make all provisions for PEC to enter the project site as required to perform the Services, including those provisions required to perform subsurface investigations such as, but not limited to, clearing of trees and vegetation, removal of fences or other obstructions, and leveling the site; (4) site restoration and repair, as needed following field investigations; (5) establish and periodically update a project budget, which shall include a contingency to cover additional services as may be required by changes in the design or Services; and (6) timely respond to requests for information and timely review and approve all design deliverables. PEC shall be entitled to rely on all information and services provided by Client. Client recognizes field investigations may damage existing property. PEC will take reasonable precautions to minimize property damage whenever field investigations are included in the Services.

**Payment.** Invoices will be submitted periodically and are due and payable net 30 days from invoice date. Unpaid balances past due shall be subject to an interest charge at the rate of 1.5 % per month from the date of the invoice, and any related attorneys’ fees and collection costs. PEC reserves the right to suspend the Services and withhold deliverables if the Client fails to make payment when due. In such an event, PEC shall have no liability for any delay or damage resulting from such suspension.

**Work Product.** PEC is the author and owner of all reports, drawings, specifications, test data, techniques, photographs, letters, notes, and all other work product, including in electronic form, created by PEC in connection with the Project (the “Work Product”). PEC retains all common law, statutory, and other reserved rights in the Work Product, including copyrights. The Work Product may not be reproduced or used by the Client or anyone claiming by, through or under the Client, for any purpose other than the purpose for which it was prepared, including, but not limited to, use on other projects or future modifications to the Project, without the prior written consent of PEC. Any unauthorized use of the Work Product shall be at the user’s sole risk and Client shall indemnify PEC for any liability or legal exposure arising from such unauthorized use. To the extent PEC terminates this Agreement due to non-payment by Client shall not be entitled to use the Work Product for any purpose without the prior written consent of PEC.

Unless otherwise agreed by Client and PEC, Client may rely upon Work Product only in paper copy (“hard copy”) or unalterable digital files, with either wet or digital signature meeting the requirements of the governing licensing authority having jurisdiction over the Project. In all instances, the original hard copy of the Work Product takes precedence over electronic files. All electronic files furnished by PEC are furnished only for convenience, not reliance by Client, and any reliance on such electronic files will be at the Client sole risk.

**Insurance.** PEC and Client agree to each maintain statutory Worker’s Compensation, Employer’s Liability Insurance, General Liability Insurance, and Automobile Insurance coverage for the duration of this Agreement. Additionally, PEC will maintain Professional Liability Insurance for PEC’s negligent acts, errors, or omissions in providing Services pursuant to this Agreement.

**Supplemental Agreements.** Changes in the Services may be accomplished after execution of this Agreement only by a written Supplemental Agreement signed by PEC and Client. For any change that increases PEC’s cost of, or time required for performance of any part of the Services, PEC’s compensation and time for performance will be equitably increased.

**Differing, Concealed, or Unknown Conditions.** If PEC encounters conditions at the Project site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the information provided to PEC or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities provided for in this Agreement, PEC will, if practicable, promptly notify Client before conditions are disturbed. Subsurface condition identification is limited to only those points where samples are taken. The nature and extent of subsurface condition variations across the site may not become evident until construction. PEC assumes no liability for site variations differing from those sampled or changed conditions discovered during construction. If the differing, concealed, or unknown conditions cause an increase in PEC’s cost of, or time required for performance of any part of the Services, PEC’s compensation and time for performance will be equitably increased.

Additionally, Client (1) waives all claims against PEC and (2) agrees to indemnify and hold harmless PEC as well as its respective officers, directors and employees, from and against liability for claims, losses, damages, and expenses, including reasonable attorneys’ fees from all third-party claims resulting from differing, concealed, or unknown conditions.



**Fast-Track, Phased or Accelerated Schedule.** Accelerated, phased or fast-track scheduling increases the risk of incurring unanticipated costs and expenses including costs for PEC to coordinate and redesign portions of the Project affected by the procuring or installing elements of the Project prior to the completion of all relevant construction documents, and costs for the contractor to remove and replace previously installed work. If Client selects accelerated, phased or fast-track scheduling, Client agrees to include a contingency in the Project budget sufficient to cover such costs.

**Force Majeure.** PEC will not be liable to Client for delays in performing the Services or for any costs or damages that may result from: labor strikes; riots; war; acts of terrorism; acts or omissions of governmental authorities, the Project Client or third parties; extraordinary weather conditions or other natural catastrophes; acts of God; unanticipated site conditions; or other acts or circumstances beyond the control of PEC. In the event performance of the Services is delayed by circumstances beyond PEC's control, PEC's compensation and time for performance will be equitably increased.

**Construction Means; Safety.** PEC shall have no control over and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for construction safety precautions and programs. PEC shall not be responsible for the acts or omissions of any contractor, subcontractor or any other person performing any work (other than the Services), or for the failure of any of them to carry out their work in accordance with all applicable laws, regulations, codes and standards, or the construction documents.

**Cost Estimates.** Upon request, PEC may furnish estimates of probable cost, but cannot and does not guarantee the accuracy of such estimates. All estimates, including estimates of construction costs, financial evaluations, feasibility studies, and economic analyses of alternate solutions, will be made on the basis of PEC's experience and qualifications and will represent PEC's judgment as a design professional familiar with the construction industry. However, PEC has no control over (1) the cost of labor, material or equipment furnished by others, (2) market conditions, (3) contractors' methods of determining prices or performing work, or (4) competitive bidding practices. Accordingly, PEC will have no liability for bids or actual costs that differ from PEC's estimates.

**Termination.** Both the Client and PEC have the right to terminate this Agreement for convenience upon fifteen calendar days' written notice to the other party. In the event the Client terminates this Agreement without cause, PEC shall be entitled to payment for all Services performed and expenses incurred up to the time of such termination, plus fees for any required transition services, and reimbursement of all costs incurred which are directly attributable to such termination.

**Environmental Hazards.** Client acknowledges that the Services do not include the detection, investigation, evaluation, or abatement of environmental conditions that PEC may encounter, such as mold, lead, asbestos, PCBs, hazardous substances (as defined by Federal, State or local laws or regulations), contaminants, or toxic materials that may be present at the Project site. Client agrees to defend, indemnify, and hold PEC harmless from any claims relating to the actual or alleged existence or discharge of such materials through no fault of PEC. PEC may suspend the Services, without liability for any damages, if it has reason to believe that its employees may be exposed to hazardous materials.

**Betterment.** PEC will not be responsible for any cost or expense that provides betterment, upgrade, or enhancement of the Project.

**Dispute Resolution.** The Client and PEC will endeavor to resolve claims, disputes and other matters in issue arising out of this Agreement, the Project or the Services through a meet and confer session. The meeting will be attended by senior representatives of Client and PEC who have full authority to



resolve the claim. The meeting will take place within thirty (30) days after a request by either party, unless the parties mutually agree otherwise. Prior to the meeting, the parties will exchange relevant information that will assist in resolving the claim.

If the parties resolve the claim, they will prepare appropriate documentation memorializing the resolution.

If the parties are unable to resolve the claim, PEC and Client agree to submit the claim to mediation prior to the initiation of any binding dispute resolution proceedings (except for PEC claims for nonpayment). The mediation will be held in Wichita, Kansas, and the parties will share the mediator's fees and expenses equally.

**Jurisdiction; Venue; Governing Law.** To the fullest extent permitted by law, PEC and Client stipulate that the Eighteenth Judicial District, District Court, Sedgwick County, Kansas is the court of exclusive jurisdiction and venue to determine any dispute arising out of or relating to this Agreement, the Project or the Services. PEC and Client further agree that this Agreement shall be construed, interpreted and governed in accordance with the laws of the State of Kansas without regard to its conflict of laws principles.

**Indemnity.** To the fullest extent permitted by law, Client and PEC each agree to indemnify and hold harmless the other, as well as their respective officers, directors and employees, from and against liability for claims, losses, damages, and expenses, including reasonable attorneys' fees, provided such claim, loss, damage, or expense is attributable to bodily injury, sickness, disease, death, or property damage, but only to the extent caused by the negligent acts or omissions of the indemnifying party, or anyone for whose acts they may be liable.

**Agreed Remedy.** To the fullest extent permitted by law, the total liability, in the aggregate, of PEC and PEC's officers, directors, employees, agents, and consultants to Client and anyone claiming by, through or under Client, for any and all injuries, claims, losses, expenses, or damages, including, without limitation, attorneys' fees, arising out of or in any way related to this Agreement, the Services, or the Project, from any cause and under any theory of liability, shall not exceed PEC's total fee under this Agreement. In no event will PEC be liable for any indirect, incidental, special or consequential damages, including, without limitation, loss of use or lost profits, incurred by Client or anyone claiming by, through or under Client.

**Assignment.** Client will not assign any rights, duties, or interests accruing from this Agreement without the prior written consent of PEC. This Agreement will be binding upon the Client, its successors and assigns.

**No Third-Party Beneficiaries.** This Agreement is solely for the benefit of PEC and Client. Nothing herein is intended in any way to benefit any third party or otherwise create any duty or obligation on behalf of PEC or Client in favor of such third parties. Further, PEC assumes no obligations or duties other than the obligations to Client specifically set forth in this Agreement. PEC shall not be responsible for Client obligations under any separate agreement with any third-party.

**Entire Agreement.** This Agreement represents the entire and integrated agreement between PEC and Client and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may only be amended by a writing signed by PEC and Client.

Anne Stephens  
The City of Bel Aire  
Bel Air 45<sup>th</sup> Street – Oliver to Woodlawn  
January 4, 2024  
Page 5

**Severability.** If any provisions of this Agreement is determined to be unenforceable, in whole or in part, the remainder shall not be affected thereby and each remaining provision or portion thereof shall continue to be valid and effective and shall be enforceable to the fullest extent permitted by law.

Thank you for engaging PEC; we look forward to working with you. If this Agreement is acceptable, please sign below and return an executed copy to me. Once received, a copy of the Agreement will be executed and returned.

RWH:jab

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

By: \_\_\_\_\_, Signatory

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

ACCEPTED:

THE CITY OF BEL AIRE

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## **EXHIBIT A**

### **A. Project Description**

The Bel Aire 45<sup>th</sup> Street – Oliver to Woodlawn (Project) shall consist of the reconstruction of the roadway, new intersection at 45th and Oliver, new storm sewers, and new connections with the existing side streets in Bel Aire, Kansas.

### **B. Anticipated Project Schedule.**

1. Field Exploration is anticipated to begin within 14 days of client's notice to proceed and be completed in 2 days.
2. Laboratory Testing is anticipated to be completed within 2 weeks of Field Exploration.
3. Final Report available approximately 1 week after the completion of Laboratory Testing.

### **C. Project Deliverables**

1. This Project Deliverables shall consist of providing a signed and sealed Geotechnical Report based on the Scope of Services below.

### **D. Scope of Services:**

1. General Scope Items for Geotechnical Engineering Services:
  - a) PEC will use an appropriate One-Call utility locate system prior to arriving onsite.
  - b) (10) subsurface borings to depths 10 feet below existing grade
  - c) (10) subsurface borings to depths 15 feet below existing grade
  - d) SPT sampling at the following intervals:
    - 1.5, 3.0, 6.0, 8.5, and at 5.0 intervals thereafter
  - e) Relatively undisturbed soil samples (Shelby Tubes) will also be obtained.
  - f) Grab/bulk samples from auger cuttings will be obtained depending on site conditions.
  - g) Laboratory testing will be performed to determine the following index and engineering properties:
    - Moisture Content
    - Density
    - Atterberg Limits
    - Percent Passing #200 sieve
    - Swell/Consolidation
    - Unconfined compressive strength
    - Sulfate Testing
  - h) Geotechnical report, including boring logs, soil descriptions and classifications, groundwater elevations at the time of drilling, and laboratory test results.
  - i) Geotechnical recommendations including: deep and shallow foundation design parameters, pavement, subgrade drainage, earthwork, excavation, soil stabilization, and controlled fill.
  - j) Boreholes will be plugged with sodium bentonite, auger cuttings (spoils) and capped with similar materials.
  - k) General cleanup of the site.

E. **Additional Responsibilities of Client:**

The **Client** agrees to provide the following pursuant to PEC accomplishing the Scope of Services outlined herein.

1. Two weeks' notice of anticipated services needed.
2. Assuring that private utilities, not located by an appropriate One-Call utility locate system, are identified prior to our arrival onsite, or have made arrangements for a Client representative with knowledge of such utilities to meet onsite prior to commencement of drilling activities.
3. Information related to known and/or potentially hazardous subsurface conditions and/or history of site contamination.
4. Provide right of entry for PEC's personnel in performing site visits, field surveys and inspections.
5. Pay PEC for authorized additional work associated with services not included in Exhibit 'A', or overages of the quantities outlined in Exhibit 'A'.

F. **Additional Services:**

The following services can be provided by PEC at an additional cost by Supplemental Agreement:

1. Construction Staking
2. Construction Materials Testing

G. **Exclusions:**

The following shall be specifically excluded from the Scope of Services to be provided by PEC.

1. Offsite removal of spoils
2. Environmental services
3. Handling of contaminated soils

H. **PEC's Fees & Reimbursable Expenses.**

1. PEC will invoice **Client** one time per month for services rendered and Reimbursable Expenses incurred in the previous month.
2. PEC's Fee for its Scope of Services will be a **lump sum fee of:**

Discipline	Subtotal
Geotechnical Engineering	\$25,508.50*
Totals	\$25,508.50*

*\*If the city of Bel Aire provides traffic control, this fee can be reduced by \$5,000.*

3. Taxes are not included in PEC's Fees. **Client** shall reimburse PEC for any sales, use, and value added taxes which apply to these services.

**\*\*\*\*Please fill out the Project Information Sheet attached to the end of this document\*\*\*\***

## PROJECT INFORMATION SHEET

Project Name: \_\_\_\_\_

Project Location (address): \_\_\_\_\_

## CLIENT INFORMATION

Client Name: \_\_\_\_\_

Client Address: \_\_\_\_\_

Project Manager Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Onsite Job Superintendent: \_\_\_\_\_ Phone Number: \_\_\_\_\_

## BILLING INFORMATION

Attention on Invoice: \_\_\_\_\_

Email Address for Invoice: \_\_\_\_\_

## REPORT DISTRIBUTION

List all persons to receive reports:

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_ Email: \_\_\_\_\_

**From:** [Lee, Ken W.](#)  
**To:** [Anne Stephens](#)  
**Subject:** FW: Terracon Proposal - Geotechnical Services for 45th - Oliver to Woodlawn project  
**Date:** Wednesday, January 10, 2024 12:35:01 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)

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FYI...

**Ken Lee, PE, F.NSPE**  
Garver  
316-221-3029

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**From:** Davidson, Shane A <Shane.Davidson@terracon.com>  
**Sent:** Wednesday, January 10, 2024 12:33 PM  
**To:** Lee, Ken W. <KWLee@GarverUSA.com>  
**Subject:** RE: Terracon Proposal - Geotechnical Services for 45th - Oliver to Woodlawn project

Please see below, thanks!

Shane

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**From:** Lee, Ken W. <[KWLee@GarverUSA.com](mailto:KWLee@GarverUSA.com)>

A couple other questions for you.

1. Do you incorporate Shelby tubes in your boring at all?
  - We've estimated 2 to 4 total Shelby Tubes throughout the full site for general use
2. Would there be any additional cost compared to your prior fee?
  - No additional cost to collect Tubes versus standard split-spoons (however specific lab tests may require additional fees if you have specific requests)
3. Would there be an extra fee if the city wanted to have 24 hour observations on water level on holes where water was encountered during the bore?
  - This would require another mobilization fee (\$350) plus any standby time, but the other concern with this would be keeping the roadway closed for 24 hours because our hole won't be patched.

Appreciate you taking the time to look at this project.

**Ken Lee, PE, F.NSPE**  
Garver  
316-221-3029

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**From:** Davidson, Shane A <[Shane.Davidson@terracon.com](mailto:Shane.Davidson@terracon.com)>  
**Sent:** Wednesday, January 10, 2024 11:36 AM  
**To:** Lee, Ken W. <[KWLee@GarverUSA.com](mailto:KWLee@GarverUSA.com)>  
**Subject:** RE: Terracon Proposal - Geotechnical Services for 45th - Oliver to Woodlawn project

You're welcome, I apologize again for the delay and for the broken-up info. We are just playing a lot of catch-up right now so I really appreciate your understanding! Let me know if any other questions come up.

Thanks!  
Shane

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**From:** Lee, Ken W. <[KWLee@GarverUSA.com](mailto:KWLee@GarverUSA.com)>  
**Sent:** Wednesday, January 10, 2024 11:29 AM  
**To:** Davidson, Shane A <[Shane.Davidson@terracon.com](mailto:Shane.Davidson@terracon.com)>; Anne Stephens <[ASStephens@belaireks.gov](mailto:ASStephens@belaireks.gov)>  
**Cc:** Tannoury, George A. <[George.Tannoury@terracon.com](mailto:George.Tannoury@terracon.com)>  
**Subject:** RE: Terracon Proposal - Geotechnical Services for 45th - Oliver to Woodlawn project

That helps. Thanks for the information!

**Ken Lee, PE, F.NSPE**  
Garver  
316-221-3029

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**From:** Davidson, Shane A <[Shane.Davidson@terracon.com](mailto:Shane.Davidson@terracon.com)>  
**Sent:** Wednesday, January 10, 2024 11:21 AM  
**To:** Lee, Ken W. <[KWLee@GarverUSA.com](mailto:KWLee@GarverUSA.com)>; Anne Stephens <[ASStephens@belaireks.gov](mailto:ASStephens@belaireks.gov)>  
**Cc:** Tannoury, George A. <[George.Tannoury@terracon.com](mailto:George.Tannoury@terracon.com)>  
**Subject:** RE: Terracon Proposal - Geotechnical Services for 45th - Oliver to Woodlawn project

Hi Ken,

If we add 10 borings to 15 feet to the initial proposal our fee would go up by \$4,300, for a total of \$11,500. There is not an individual setup cost for additional borings, however that amount added field time would require at least a 2<sup>nd</sup> day/mobilization and we also assumed that we'd add on another Standard Proctor, CBR and a few more lab tests along with the standard lab testing and logging time that would come with the increased number of borings and samples.

I apologize for this delay but I have not been able to get a direct quote yet from a traffic control sub that we like to use. In general they charge about \$3,400 per day for a full closure and \$4,800 per day for a full day flagger. This is why we generally recommend the city try to make someone available to



flag, or the best and safest option is to set up closure signs and fully close off the route to traffic during the hours we are there (I understand this is not always acceptable) and we can move those signs off-road ourselves when finished. Please let me know if you have any other questions.

Thanks!

**Shane A. Davidson, I.E.**

Senior Staff Engineer  
Wichita, KS | Lenexa, KS



15620 West 113<sup>th</sup> Street | Lenexa, KS 66219

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**From:** Lee, Ken W. <[KWLee@GarverUSA.com](mailto:KWLee@GarverUSA.com)>

**Sent:** Friday, January 5, 2024 3:49 PM

**To:** Davidson, Shane A <[Shane.Davidson@terracon.com](mailto:Shane.Davidson@terracon.com)>; Anne Stephens  
<[AStephens@belaireks.gov](mailto:AStephens@belaireks.gov)>

**Cc:** Tannoury, George A. <[George.Tannoury@terracon.com](mailto:George.Tannoury@terracon.com)>

**Subject:** RE: Terracon Proposal - Geotechnical Services for 45th - Oliver to Woodlawn project

Shane,

Thanks for sending this out. Can you provide an additional separate fee for 10 more borings with depths up to 15'? You mention \$22 lf below, would the extra borings be \$3,300 or is there a cost to setup at each bore?

Also, you mention that the quote doesn't include traffic control. Given that this is a two lane asphalt mat roadway, we anticipate that there could be situations where flagging might be required. Can you provide a budget if that's the case?

Appreciate the help. Anne and I will look through the rest of the proposal and let you know if there are any other questions.

Thank you again.

**Ken Lee, PE, F.NSPE**

Garver  
316-221-3029

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**From:** Davidson, Shane A <[Shane.Davidson@terracon.com](mailto:Shane.Davidson@terracon.com)>

**Sent:** Friday, January 5, 2024 3:38 PM

**To:** Anne Stephens <[AS Stephens@belaireks.gov](mailto:AS Stephens@belaireks.gov)>; Lee, Ken W. <[KWLee@GarverUSA.com](mailto:KWLee@GarverUSA.com)>

**Cc:** Tannoury, George A. <[George.Tannoury@terracon.com](mailto:George.Tannoury@terracon.com)>

**Subject:** Terracon Proposal - Geotechnical Services for 45th - Oliver to Woodlawn project

Good afternoon Anne and Ken,

Please see below for a breakdown of our proposed scope and fee, I apologize for not having a formal proposal document ready for you today but I can put one together early next week if it's required. We appreciate the opportunity to submit our proposed scope and fee for subsurface exploration and geotechnical engineering services for the proposed 45th Street North project in Bel Aire, Kansas. We assume traffic control assistance can be provided by the city. The proposed scope is outlined below:

**Subsurface exploration:**

- Drilling 10 borings to a depth of up to 10 feet below the existing ground surface along the existing roadway
- Sampling with split spoons and from bulk auger cuttings
- Water level observations will be made while drilling and immediately after drilling completion at the boring locations.
- Borings will be backfilled with auger cuttings and pavements patched, as appropriate

**Laboratory testing:**

- Common laboratory testing (moisture and density determination) on collected soil samples
- Atterberg limits tests
- Standard Proctor
- California Bearing Ratio

**Engineering:**

- We will provide a geotechnical engineering report that discusses recommendations related to earthwork, pavement subgrade preparation and section thickness options for the proposed project.
  - Our recommendations for pavement, base and subgrade design will meet KDOT requirements and also come with multiple alternatives so the design team can decide what method would work best for this particular project.
  - We can also provide more in-depth subgrade treatment recommendations including mix designs (for additional fees), placement and construction procedures and experienced contractors that have performed similar work.

Our lump sum fee for the services defined above, including drilling, laboratory testing, and a geotechnical engineering report will be **\$7,200. This fee does not include any budget for site**

**clearing or traffic control.** This fee is based on full access to all locations during our field activities provided by the City of Bel Aire and one mobilization to the site. If additional mobilizations (due to delays outside of our control) are required an additional fee rate of \$350 per trip will be applied. We can provide a detailed proposal upon your request.

We should be able to drill the site sometime within 3 weeks of notice to proceed, drilling should only require one day (depending on traffic control) and then the report can be delivered approximately 3 weeks after drilling is complete.

Additional drilling, if requested while our drill crew is on-site, including common laboratory testing, will be invoiced at \$22 per linear foot.

Please let us know if you have any questions about the proposed scope.

Thanks!

**Shane A. Davidson, I.E.**

Senior Staff Engineer  
Wichita, KS | Lenexa, KS



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**From:** Lee, Ken W. <[KWLee@GarverUSA.com](mailto:KWLee@GarverUSA.com)>

**Sent:** Wednesday, December 13, 2023 4:40 PM

**To:** Tannoury, George A. <[George.Tannoury@terracon.com](mailto:George.Tannoury@terracon.com)>

**Subject:** Geotechnical Services for 45<sup>th</sup> - Oliver to Woodlawn project

George,

We are working with the City of Bel Aire on the design of 45<sup>th</sup> Street North from Oliver to Woodlawn. The project includes the design of the intersection at 45<sup>th</sup> & Oliver, connections to existing side streets, storm sewer design and coordination with utilities for relocations. The existing asphalt mat will be removed and the road section will be lowered between 2' and 3' to accommodate a new curb and gutter roadway section. We will be getting final approval of the design concept in the next couple months with the plan to submit Field Check plans to KDOT in Spring of 2024.

We are soliciting proposals for geotechnical investigations on the project through a contract with the City of Bel Aire to identify any potential subsurface concerns as well as provide pavement, base and subgrade treatment recommendations that meet KDOT requirements. Overall project cost will be

one factor in the selection of the firm to perform the work, but City staff will also be evaluating the scope of services and proposed schedule as well. As such, the lowest price may not be the one selected.

Following are elements of the geotechnical study that will need to be discussed in the proposal:

1. Number and depth of proposed soil borings
2. Methodology in determining pavement sections
3. Other proposed services that will help the City and their engineer evaluate the design
4. Experience on arterial road projects in the Wichita metro area and on KDOT projects.
5. Proposed schedule for delivery of study results after the Notice to Proceed date.

We would like a scope and fee letter to be provided by 5 pm, January 5<sup>th</sup>, 2024 for consideration by the City Council at their January 16<sup>th</sup> meeting. The letter should be submitted via email to Anne Stephens at [astephens@belaireks.gov](mailto:astephens@belaireks.gov) with a copy of the email sent to my email address as well.

We appreciate you taking the time to consider this work. Please reach out to me if you have any questions.

Thank you,



**Ken Lee, PE, F.NSPE**

Senior Project Manager

*Transportation Team*

📞 316-221-3029

📠 316-258-3190

Terracon provides environmental, facilities, geotechnical, and materials consulting engineering services delivered with responsiveness, resourcefulness, and reliability.

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