COMPETITIVE BID SOLICITATION FOR THE COMPLETION OF A SITE CHARACTERIZATION REPORT AND A REMEDIAL ALTERNATIVES EVALUATION

Art's Servicenter, Inc.
6661 Tilghman Street
Upper Macungie Township, Lehigh County
Allentown, PA 18106
PADEP FACILITY ID #39-36648
PAUSTIF CLAIM #2009-141(F)

September 4, 2012

The Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF) on behalf of the claimant for the above referenced claim is soliciting bidders for a fixed price contract project. Specifically, this Request for Bid (RFB) is seeking qualified firms to prepare and submit a fixed price proposal to complete a Site Characterization Report (SCR) and a remedial alternatives evaluation for the Art's Servicenter, Inc. facility, 6661 Tilghman Street, Allentown, Pennsylvania (Site). A petroleum release to soil has been confirmed at the Site and the Pennsylvania Department of Environmental Protection (PADEP) denied a previously submitted Site Characterization Report (SCR) due to incomplete characterization. The Solicitor has an open claim (Claim #2009-141(F)) with the PAUSTIF and the work outlined in this RFB will be completed under this aforementioned claim. Reimbursement of Solicitor-approved reasonable, necessary and appropriate costs (within claim limits) for the work described in this RFB will be provided by PAUSTIF.

The PADEP has deemed the Site characterization as incomplete. The May 11, 2011 SCR denial letter along with Site data reveals that additional characterization activities are necessary to delineate the extent of petroleum impacted soil (and potentially groundwater) on Site. The previously submitted SCR proposed soil excavation and offsite disposal as the selected remedial technique. The aforementioned SCR selected the residential used aquifer (<2,500 TDS) Statewide Health Standards (SHS) for the Site.

This RFB includes four (4) major components with subtasks presented in an outline format for cost analysis and implementation. The fixed costs proposed by the consultant bidder shall be based on the scope of work provided in the RFB. Expenses in excess of the quoted price for the contract shall be the consultant's responsibility. The scope and budget for any identified out of scope activities must be pre-approved to be eligible for payment. Any costs associated with deviations from the scope that did not receive prior approval from the solicitor and PAUSTIF, or its representatives, will not be reimbursed.

Specifically, this RFB seeks competitive bids from qualified consultants to complete additional characterization activities, prepare an appropriate SCR, evaluate potential remedial strategies, and facilitate progress towards Site closure in a timely, efficient, and cost effective manner.

To be considered for selection, **one hard copy of the signed bid package and one electronic copy (one PDF file on a compact disk (CD) included with the hard copy) must be provided directly to the Fund's third party administrator, ICF International (ICF), to the attention of Deb Cassel, Contracts Administrator.** She will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. Bid responses will only be accepted from those firms who attended the mandatory pre-bid site meeting. **The ground address for overnight/next-day deliveries is ICF International, 4000 Vine Street, Middletown, PA 17057, Attention: Deb Cassel. The outside of the shipping package containing the bid response must be clearly marked and labeled with "Bid – Claim # 2009-141(F).** Please note that the use of U.S. Mail, FedEx, UPS, or other delivery method does not guarantee delivery to this address by the due date and time listed below for submission. Firms mailing bid responses should allow adequate delivery time to ensure timely receipt of their bid package.

The bid response must be received by 3:00 PM, on October 9, 2012. Bids will be opened immediately after the 3:00 PM deadline on the due date. Any bid packages received after this due date and time will be time-stamped and returned. If, due to inclement weather, natural disaster, or any other cause, the Fund's third party administrator, ICF's office is closed on the bid response due date, the deadline for submission will automatically be extended to the next business day on which the office is open. The Fund's third party administrator, ICF, may notify all firms who attended the mandatory Site meeting of an extended due date. The hour for submission of bid responses shall remain the same. Submitted bid responses are subject to Pennsylvania Right-to-Know Law.

On behalf of ICF and PAUSTIF, the Technical Contact will assist the Solicitor in evaluating the bids but the Solicitor will ultimately choose with whom to negotiate the mutually agreeable contract. The bid evaluation will consider, among other factors, total bid cost, unit costs, schedule, qualifications, and contract terms and conditions (no priority or relative weighting is implied by the order of these factors). The Solicitor anticipates informing the selected consultant with an approval to proceed within twelve (12) weeks of the bid response deadline. Please note that when the contract is in place with the consultant selected by the Solicitor, all other firms submitting bid packages will be notified that the contract was awarded.

ICF REPRESENTATIVE AND TECHNICAL CONTACT INFORMATION

ICF Representative

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NOTE: All questions regarding this RFB solicitation and the subject Site conditions must be directed to the Technical Contact and submitted in writing with the understanding that all

questions and answers will be provided to all bidders. If questions are to be submitted via email, please note the following in the subject line of the email: Art's Servicenter RFB Questions Claim No 2009-141(F). Bidders must neither contact nor discuss this RFB Solicitation with the Solicitor, PAUSTIF, or ICF International unless approved by the Technical Contact. Bidders may discuss this RFB solicitation with subcontractors and vendors to the extent required for preparing the bid response.

SITE LOCATION, OPERATION, AND BACKGROUND INFORMATION

Site Address

Art's Servicenter Inc.
6661 W. Tilghman Street
Allentown, PA 18106
Upper Macungie Township, Lehigh County

Site Location and Operation Information

The Site is former retail gasoline station and automobile repair facility located at 6661 West Tilghman Street in Upper Macungie Township, Lehigh County, Pennsylvania. The property is approximately 2.46 acres in size and contains a brick auto repair garage and two (2) pole barns. Three (3) unleaded gasoline underground storage tanks (USTs) were formerly located in the southern portion of the Site (canopy still present at former dispenser locations adjacent to tank-hold). A used motor oil UST was formerly located onsite and was removed at and remediated prior to the removal of the unleaded gasoline UST system. The unleaded gasoline UST systems were removed from the Site during September 2009. The Site is surrounded by a mixture of industrial, commercial, and residential properties. The Site and surrounding properties are provided with public water from Lehigh County Authority and sanitary sewer service from Upper Macungie Township. A Site Location Map is provided as Figure 1, a Surrounding Properties Map is provided as Figure 2, and a Site Plan is provided as Figure 3.

Site Background Information

Three (3) 6,000 gallon fiberglass reinforced plastic (FRP) UST systems were removed from the Site during September 2009. Localized contamination was found beneath UST #3. Neither groundwater nor bedrock was observed during the UST system removal activities. No petroleum impacted soil was removed and the excavation and all excavated materials were placed back into the tank-hold as fill material. A total of ten (10) post excavation soil samples were collected from the tank-hold and submitted to a laboratory for analysis of unleaded gasoline target compounds. No soil samples were collected in the vicinity of the former product dispensers. The soil analysis indicated concentrations of benzene, toluene, MTBE, 1,2,4-TMB, and 1,3,5-TMB above their respective SHSs. In addition the laboratory reporting limit for EDB exceeded the SHS in several non-detect soil samples. Additional Site characterization was necessary because petroleum hydrocarbon concentrations exceeded residential SHSs.

A soil investigation was conducted at the Site on June 2, 2010 by the previous consultant. Twenty (20) soil samples were collected from thirteen (13) soil borings advanced in the vicinity of the former unleaded gasoline UST systems utilizing hydraulic push technology. Three (3) additional soil borings were advanced without sample collection due to shallow refusal (2.5 – 6') from fill material. The remaining soil borings were terminated at depths ranging from eight (8) to twenty seven (27) feet below grade (ftbg) without encountering refusal or groundwater based on visual, olfactory, and photoionization detector (PID) observations. Up to two (2) soil samples were collected from each boring and analyzed for unleaded gasoline target compounds. The soil sampling results indicate petroleum hydrocarbons were observed above the SHSs in the area of the former product dispensers at depths of four (4) ftbg (DP-5 (4') & DP-6 (4')). However non-detect results were obtained from soil samples collected from the same borings at depths of eight (8) ftbg.

In June 2010, the previous consultant submitted an SCR to PADEP summarizing the activities completed at the Site. The SCR indicted the soil delineation was complete, groundwater was not of concern, and recommended limited soil excavation in the vicinity of the former product dispensers.

On May 11, 2011 PADEP disapproved the SCR citing incomplete characterization and required clarification regarding several of the observations and statements made by the previous consultant.

On October, 24, 2011, a workplan was prepared and submitted to PADEP for review and comment. The workplan was prepared to address PADEP's concerns with the Site and complete the characterization. No immediate response was received.

On March 13, 2012, a response was received from PADEP regarding the workplan submitted October 24, 2011. PADEP's responses were addressed in this RFB.

Bidders are directed to the pertinent available documentation (including reports, figures, correspondence and analytical data) that has been provided in Attachment 1 for additional Site background details.

PROPOSED SCOPE OF WORK

The scope of work has been prepared using the guidelines of Pennsylvania Code Title 25, Chapter 245 (The Storage Tank and Spill Prevention Program) and Chapter 250 (The Land Recycling Program). There are several key elements that must be completed in order for the approach outlined in this RFB to be successful. The critical elements include the following:

- Prepare the appropriate project guidance documents;
- Complete a full Sensitive Receptor Survey;
- Conduct a soil boring investigation;

- Conduct soil gas sampling;
- Install three (3) temporary shallow/overburden groundwater monitoring wells;
- Complete a Site survey, map the important features of the Site;
- Prepare and submit a Site Characterization Report;
- Complete a risk assessment evaluation using the applicable guidance documents in an effort to appropriately evaluate exposure pathways;
- Remedial Alternatives Analysis should be completed for the Site to compare cleanup alternatives and evaluate which remedial action is most appropriate for the Site; and
- Prepare a Risk Assessment and Feasible Remedial Alternatives Analysis Report for the Site.

In addition to the above base Scope of Work, the following ***Optional Cost Adders*** need to be addressed in your bid response. These costs adders will not be part of your initially approved contract. However, if it becomes necessary to complete any of these activities, they will be completed under the Remediation Agreement signed as part of this project. More details regarding the work scope for each of these ***Optional Cost Adders*** is provided at the end of the RFB Scope of Work.

- ***Optional Cost Adder #1*** –Provide a Unit Cost to conduct a groundwater monitoring and sampling event from the shallow/overburden monitoring wells.
- ***Optional Cost Adder #2*** – Provide a Unit Cost to install one (1) bedrock groundwater monitoring well.
- ***Optional Cost Adder #3*** – Provide a Unit Cost to extend the above referenced bedrock monitoring well beyond the specified depth on a per linear foot basis.
- ***Optional Cost Adder #4*** –Provide a Unit Cost to conduct a groundwater monitoring and sampling event from the above referenced bedrock monitoring wells.
- ***Optional Cost Adder #5*** – Provide a Unit Cost to monitor and sample and additional well beyond the above-specified three (3) wells on a per well basis.
- ***Optional Cost Adder #6*** – Provide a Unit Cost to Prepare a Summary Progress Report for submittal to the PADEP.
- ***Optional Cost Adder #7*** – Provide a Unit Cost to install one (1) overburden groundwater monitoring well.

- ***Optional Cost Adder #8*** **–** Provide a Unit Cost to convert the three (3) shallow temporary well points in properly constructed permanent overburden groundwater monitoring wells.

- ***Optional Cost Adder #9*** **–** Provide a Unit Cost to conduct aquifer testing activities at the Site.

- ***Optional Cost Adder #10*** **–** Provide a Unit Cost to extend the Pump test for four (4) additional hours at the Site.

- ***Optional Cost Adder #11*** **–** Provide a Unit Cost to update the Site's survey to include any necessary additional well location(s) not included in the base scope of work.

- ***Optional Cost Adder #12*** **–** Provide a Unit Cost to complete fate and transport modeling if needed.

- ***Optional Cost Adder #13*** **–** Provide a Unit Cost to prepare a combined SCR/RAP for submittal to the PADEP instead of a SCR.

- ***Optional Cost Adder #14*** **-** Provide a Unit Cost to install one (1) additional soil gas sampling point and collect two (2) soil gas samples from the newly installed soil gas point.

- ***Optional Cost Adder #15*** **-** Provide a Unit Cost to install one (1) additional soil boring and collect two (2) soil samples from the boring for laboratory analysis.

- ***Optional Cost Adder #16*** **–** Provide a Unit Cost to collect one (1) additional soil sample for laboratory analysis.

The bid package should follow the task format outlined below. Proposals should include a detailed description of the anticipated costs for each task including labor rates, time requirements, and equipment costs as broken out in the detailed cost sheet included as Attachment 2. The scope of work that we are requesting is provided below:

Task 1.0 Project Planning / Management:

Task 1.1 Preparation of Project Guidance Documents – Proposed documents to be prepared include a Site specific health and safety plan, a field sampling and analysis plan, and a quality assurance/quality control plan. Where applicable, the pertinent project guidance documents should be prepared in accordance with Chapter 245.

Task 1.2 Project Management – The successful bidder shall complete necessary, reasonable, and appropriate project management activities for the duration of the contract period consistent with release investigation projects. Such activities would be expected to include client communications / updates, meetings, permitting, record keeping,

subcontracting, personnel and subcontractor management, quality assurance / quality control, scheduling and other activities.

Task 1.3 Sensitive Receptor Survey – A Sensitive Receptor Survey (SRS) should be conducted for this Site. Sensitive receptors evaluated for this Site should include area water usage, surface water bodies, and subsurface underground utilities and basements. Submitted bids should specify what activities will be included in the SRS activities (i.e. review of tax maps and property assessment records; area canvass; PNDI search, etc.). A 1,000-foot radius water usage survey should be completed as part of the SRS in an effort to document the area water use. As part of the water usage survey, the selected consultant should complete the following:

1. Conduct a private and public well search by obtaining an area specific report;
2. Obtain and review tax maps for the area;
3. Contact the local municipality and water authority to confirm water usage in the area of the Site and any local restrictions on water usage;
4. Review of previously completed sensitive receptor surveys;
5. Review of county property assessment records;
6. Canvass of the area; and
7. Field verification of water supply to surrounding properties.

Results of the SRS are to be taken into consideration during the execution of the project and are to be summarized and included in the SCR to be submitted to PADEP.

<u>Task 2.0 Additional Site Characterization:</u>

Task 2.1 Soil Boring Investigation – In an effort to fully investigate (vertically and horizontally) the impact to the soil media from the confirmed UST release, a series of soil borings is being proposed. PADEP has expressed concerns regarding material backfilled into the UST hold and the integrity of previously collected soil samples, therefore sampling of backfill material and resampling all previous soil sample locations is included in this scope of work.

Specifically, the activities include the completion of 32 soil borings in the vicinity of the former UST system. Please note that some of the borings are located within the former tank hold which was reportedly backfilled with soil, crushed stone, and refuse concrete. The selected consultant will be responsible for utilizing an appropriate boring technique capable of penetrating the fill materials and collecting discrete soil samples within or below the fill material. Boring investigations noting refusal from fill material within the former UST system excavations will not be reimbursed. According to the previous consultant, groundwater was not encountered during the tank system removal or previous soil boring activities. However, elevated moisture content in some samples indicates saturated soils were potentially encountered. Consultants need to use care to select appropriate sample depths representative of unsaturated soil conditions. Boring investigations noting sample collection depths below the water table will not be reimbursed. Consultant should review the available documents included in Attachment 1 in order to determine the appropriate equipment needed to complete the investigation. The following is a

summary of the specific intervals to be investigated at each boring location indicated on Figure 4:

B-1 – Resampling of post-excavation soil sample CL-1 (12') due to EDB reporting level greater than SHS and vertical delineation. For this location a minimum of one (1) soil sample shall be collected at the base of the tank hold excavation (estimated depth of 12 ftbg). If field indications of petroleum impacted soils are encountered, the boring shall be extended deeper until clean soil (based on visual, olfactory, and PID readings), groundwater, and/or bedrock are encountered (boring termination interval). A second soil sample shall be collected from the boring termination interval.

B-2 – Vertical delineation beneath and resampling of post-excavation soil sample PDLC-3 (12'). For this location the boring shall be field screened and logged continuously from the base of the tank hold excavation (estimated depth of 12 ftbg) and shall be extended deeper until clean soil (based on visual, olfactory, and PID readings), groundwater, and/or bedrock are encountered (boring termination interval). One (1) sample should be collected for submittal to a laboratory for analysis from the soil interval exhibiting the highest PID reading. If the highest PID readings are collected above the boring termination interval, then a second sample should be collected at the boring termination interval in an effort to delineate the soil sample with the highest PID reading. Additionally, one (1) sample should be collected for submittal to a laboratory for analysis from the base of the tank hold excavation (estimated depth of 12 ftbg).

B-3 – Horizontal delineation east of post excavation soil sample PDLC-3 (12'). For this location the boring shall be field screened and logged continuously from the ground surface and shall be extended to a minimum depth of 12 ftbg and deeper as necessary if field indications of petroleum impact are observed at this depth. One (1) sample should be collected for submittal to a laboratory for analysis from the soil interval exhibiting the highest PID reading. If the highest PID readings are collected above the boring termination interval then a second sample should be collected at the boring termination interval in an effort to delineate the soil sample with the highest PID reading. If no field indications of petroleum impacted soil are observed, a single soil sample shall be collected from 12 ftbg.

B-4 – Vertical delineation beneath and resampling of post-excavation soil sample FP-3 (12'). For this location the boring shall be field screened and logged continuously from the base of the tank hold excavation (estimated depth of 12 ftbg) and shall be extended deeper until clean soil (based on visual, olfactory, and PID readings), groundwater, and/or bedrock are encountered (boring termination interval). One (1) sample should be collected for submittal to a laboratory for analysis from the soil interval exhibiting the highest PID reading. If the highest PID readings are collected above the boring termination interval then a second sample should be collected at the boring termination interval in an effort to delineate the soil sample with the highest PID reading. Additionally, one (1) sample should be collected for submittal to a laboratory for analysis from the base of the tank hold excavation (estimated depth of 12 ftbg).

B-5 – Horizontal delineation east of post excavation soil sample FP-3 (12'). For this location the boring shall be field screened and logged continuously from the ground surface and shall be extended to a minimum depth of 12 ftbg and deeper as necessary if field indications of petroleum impact are observed at this depth. One (1) sample should be collected for submittal to a laboratory for analysis from the soil interval exhibiting the highest PID reading. If the highest PID readings are collected above the boring termination interval then a second sample should be collected at the boring termination interval in an effort to delineate the soil sample with the highest PID reading. If no field indications of petroleum impacted soil are observed, a single soil sample shall be collected from 12 ftbg.

B-6, B-7, & B-8 – Horizontal delineation of soil boring DP-5 (4'). For these locations the borings shall be field screened and logged continuously from the ground surface and shall be extended to a minimum depth of 8 ftbg and deeper as necessary if field indications of petroleum impact are observed at this depth. One (1) sample should be collected for submittal to a laboratory for analysis from the soil interval exhibiting the highest PID reading. If the highest PID readings are collected above the boring termination interval then a second sample should be collected at the boring termination interval in an effort to delineate the soil sample with the highest PID reading. If no field indications of petroleum impacted soil are observed, a single soil sample shall be collected from 4 ftbg.

B-9 & B-10 – Horizontal delineation of soil boring DP-6 (4'). For these locations the borings shall be field screened and logged continuously from the ground surface and shall be extended to a minimum depth of 8 ftbg and deeper as necessary if field indications of petroleum impact are observed at this depth. One (1) sample should be collected for submittal to a laboratory for analysis from the soil interval exhibiting the highest PID reading. If the highest PID readings are collected above the boring termination interval then a second sample should be collected at the boring termination interval, in an effort to delineate the soil sample with the highest PID reading. If no field indications of petroleum impacted soil are observed, a single soil sample shall be collected from 4 ftbg.

B-11 – Resampling of soil boring DP-4. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and soil samples shall be collected from 4 and 8 ftbg.

B-12 – Resampling of soil boring SS-4. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 16 ftbg, and a single soil sample shall be collected from 16 ftbg.

B-13 – Resampling of soil boring SS-3. For this location, the boring shall be field screened and logged continuously from the ground surface and shall be extended to a depth of 19 ftbg, and a single soil sample shall be collected from 19 ftbg.

B-14 – Resampling of first of two soil boring locations designated as SS-2. For this location, the boring shall be field screened and logged continuously from the ground

surface, shall be extended to a depth of 23 ftbg, and a single soil sample shall be collected from 23 ftbg.

B-15 – Resampling of the second of two soil boring locations designated as SS-2. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 27 ftbg, and a single soil sample shall be collected from 27 ftbg.

B-16 – Resampling of soil boring SS-1. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 23 ftbg, and single soil sample shall be collected from 23 ftbg.

B-17 – Resampling of soil boring DP-8. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and soil samples shall be collected from 4 and 8 ftbg.

B-18 – Resampling of soil boring DP-3. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and a soil samples shall be collected from 4 and 8 ftbg.

B-19 – Resampling of soil boring DP-5. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and soil samples shall be collected from 4 and 8 ftbg.

B-20 – Resampling of soil boring DP-1. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and soil samples shall be collected from 4 and 8 ftbg.

B-21 – Resampling of soil boring DP-1A. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and a soil samples shall be collected from 4 and 8 ftbg.

B-22 – Resampling of soil boring DP-2. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and a soil samples shall be collected from 4 and 8 ftbg.

B-23 – Resampling of soil boring DP-6. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and soil samples shall be collected from 4 and 8 ftbg.

B-24 – Resampling of soil boring DP-7. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to a depth of 8 ftbg, and soil samples shall be collected from 4 and 8 ftbg.

B-25 & B-26 – Sampling of material backfilled into the former UST hold. For these locations the borings shall be field screened and logged continuously from the ground

surface and shall be extended to a minimum depth of 12 ftbg. One (1) sample should be collected for submittal to a laboratory for analysis from the soil interval exhibiting the highest PID reading. If the highest PID readings are collected above the boring termination interval then a second sample should be collected at the boring termination interval in an effort to delineate the soil sample with the highest PID reading. If no field indications of petroleum-impacted soil are observed a single soil sample shall be collected from 12 ftbg.

B-27 – Resampling of post excavation soil sample PDLC-1. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to the base of the tank hold excavation, where one (1) soil sample shall be collected (estimated depth of 12 ftbg).

B-28 – Resampling of post excavation soil sample FP-1. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to the base of the tank hold excavation, where one (1) soil sample shall be collected (estimated depth of 12 ftbg).

B-29 – Resampling of post excavation soil sample PDLC-2. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to the base of the tank hold excavation, excavation, where one (1) soil sample shall be collected (estimated depth of 12 ftbg).

B-30 – Resampling of post excavation soil sample CL-2. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to the base of the tank hold excavation, where one (1) soil sample shall be collected (estimated depth of 12 ftbg).

B-31 – Resampling of post excavation soil sample FP-2. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to the base of the tank hold excavation, where one (1) soil sample shall be collected (estimated depth of 12 ftbg).

B-32 – Resampling of post excavation soil sample CL-3. For this location, the boring shall be field screened and logged continuously from the ground surface, shall be extended to the base of the tank hold excavation, where one (1) soil sample shall be collected (estimated depth of 12 ftbg).

Additional specifics on the proposed investigation are provided below:

- All soil boring locations will be advanced in the locations proposed in the RFB, unless the presence of utilities, obstructions, or safety concerns requires a change in the location. The proposed locations of the soil borings are provided on the Site Plan (Figure 4) included in Attachment 1.

- If a consultant feels it is appropriate and necessary to complete hole-clearing activities before advancing the borings, the cost should be included in their proposal and costs. If a consultant includes the cost to complete hole-clearing, they should state it in their proposal and discuss why it is appropriate and necessary. As discussed in the RFB, cost is not the only factor when evaluating proposals and other factors are taken into consideration during the review process, including appropriate safety measures.

- Soil borings shall be advanced beyond the boring specific minimum depth until field indications of clean soils (based on visual, olfactory, and PID readings), groundwater, and/or bedrock are encountered (boring termination interval) whichever is encountered first.

- Soil samples shall be collected continuously and will be logged by an on-site geologist (or under direct supervision of a geologist) for soil classification and structure, odor, soil moisture, soil texture, color, and screened with a PID. Soils should be described using the Unified Soil Classification System.

- A total of one (1) to three (3) soil samples from each of the soil borings will be collected and submitted to an accredited laboratory, as detailed above. Sample depths shall be in accordance with the above boring specific descriptions.

- A total amount of 43 to 55 soil samples shall be collected as part of this investigation, depending on Site conditions encountered as detailed above.

- Soil samples shall be field-preserved in laboratory-provided glassware with the appropriate preservatives (e.g., Encore, methanol or sodium bisulfate) provided by the laboratory in accordance with USEPA Method 5035 and the PADEP guidance.

- Samples should be properly handled under chain of custody documentation protocol and kept cold from sample collection until the samples are relinquished to the accredited laboratory.

- Soil samples shall be collected and analyzed for benzene, toluene, ethylbenzene, total xylenes, MTBE, naphthalene, cumene, EDB, EDC, 1,2,4-TMB, and 1,3,5-TMB using EPA method 8260B and Lead via EPA Method 6010B or 7420 in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2.

- One (1) soil sample which is not collected from materials backfilled into the former UST excavation should also be analyzed for fraction of organic carbon and porosity to facilitate modeling efforts, if required (Please make sure you choose

the appropriate porosity parameter based on the predictive model, selected as part of Task 3.1).

- The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the Solicitor and PAUSTIF (or its designated representative).

- Compile the field findings and laboratory data into a summary table and comprehensive soil boring logs.

- The methodology to be employed for boring clearing and advancement shall be clearly specified within all bids.

- Please note that the proposed boring locations may need to be moved due to health and safety concerns, obstructions, and/or the presence of subsurface utilities at the Site. Prior to the advancement of the soil borings, the selected consultant will be required to complete a private markout at the Site to identify the location of obstructions and underground utilities. If due to valid concerns the general locations of the proposed borings need to be altered significantly from the approximate locations provided on the attached figure, then the selected consultant will be required to contact the PADEP, discuss the need for the changes, and provide the PADEP with a revised soil boring location map.

- The above described soil samples are minimum sampling requirements. If field observations indicate additional soil samples are necessary the P.G. shall utilize their professional judgment and collect appropriate additional soil samples as necessary as discussed in *Optional Cost Adder #16.*

Task 2.2 Soil Gas Sampling – For this RFB, please assume the total number of soil gas sampling events that will be needed is two (2) events and that samples will be collected from each of the three (3) soil gas sampling points proposed. Please note that USTIF will only pay the selected consultant for the actual number of events conducted (i.e. if a firm includes the costs to complete 2 events, but only 1 events are conducted; then the firm will only be paid for the 1 event completed). The selected consultant should be prepared to conduct the first soil gas sampling event at the Site within two (2) weeks of the execution of the contract and conduct the second event approximately six (6) weeks after the first event. As part of the soil gas investigation, the selected consultant should consider the following:

- All soil gas points will be advanced in the locations proposed in the RFB, unless the presence of utilities, obstructions, or safety concerns requires a change in the location. Soil gas point locations may be adjusted by the selected consultant if necessary, based on data obtained during Site characterization activities and using their professional judgment to ensure reasonable and appropriate positioning relating to identified sources and potential receptors in accordance with PADEP's

March 13, 2012 letter. The proposed locations of the soil gas points are provided on the attached Figure 4 of Attachment 1.

- The vapor intrusion investigation should be completed in a manner consistent with the Land Recycling Technical Guidance Manual – Section IV.A.4 Vapor Intrusion Into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standards, Document 253-0330-100, dated January 24, 2004.

- Samples should be collected in laboratory provided Summa canisters equipped with laboratory calibrated flow regulators and analyzed for the PADEP Constituents list for unleaded gasoline via TO-15.

- The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the solicitor and PAUSTIF (or its designated representative).

Results from soil gas sampling events will be summarized and presented to the PADEP in the SCR.

Task 2.3 Shallow Temporary Monitoring Well Installation – The previous environmental consultant stated groundwater was not observed during the UST system closure or soil boring activities. However, elevated moisture content in some samples indicates saturated soils were potentially encountered and PADEP has requested further investigation to determine if a shallow overburden aquifer exits at the Site. Therefore a total of three (3) temporary monitoring wells (MW-1 through MW-3) are to be installed at the Site. The proposed locations of the overburden monitoring wells are provided on Figure 4. Consultant should review the available monitoring well logs included in Attachment 1 in order to determine the appropriate equipment needed to complete the investigation. As part of the installation of the wells, the selected consultant should consider the following:

- All temporary monitoring wells will be constructed within three (3) of the ten (10) proposed soil borings in the locations proposed in the RFB, unless field observations or safety concerns requires a change in the location. The proposed locations of the monitoring wells are provided on Figure 4.

- For the three (3) overburden monitoring wells, the borehole will be advanced to a depth of approximately 20 ftbg, and a monitoring well will be constructed using approximately five (5) feet of one-inch diameter, schedule 40 PVC flush threaded casing and approximately 15 feet of one-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screen. The screen utilized must be commercially manufactured & pre-packed with appropriate well grade sand prior to installation in the boreholes. The total depth and screening interval provided are approximated. The selected consultant will install the shallow temporary wells to an appropriate depth based on actual Site conditions that will allow for an

adequate column of groundwater but not extend into competent bedrock. The shallow wells will be cased for the first five (5) feet with screening extending from the bottom of the casing to the well completion depth. In addition, the estimated construction specifications provided above may need to be altered during drilling as dictated by actual Site conditions (i.e. actual observed saturated conditions, depth to bedrock, actual depth to groundwater, etc.).

- A flush-mounted manhole shall be cemented into place to complete the well at grade level. A locking, pressure fit, watertight cap will be used to prevent the infiltration of surface runoff and rainwater and to restrict access by unauthorized individuals.

- The wells should be drilled and constructed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001). Based on anticipated drilling conditions, a Pennsylvania-licensed driller should install the wells using hollow stem auger and/or direct push drilling methods;

- Drilling should be conducted under the supervision of a Pennsylvania-licensed Professional Geologist, although a field supervisor may be used in the field on a day-to-day basis. The field supervisor should visually inspect subsurface materials encountered during drilling, screen cuttings with a PID, and complete field well construction logs. When encountered, soils should be described using the Unified Soil Classification System. Bedrock should be described using USGS descriptive protocol, with the identification of the depth of and size of potential fractures and/or other subsurface anomalies.

- The newly installed monitoring wells should be developed to promote adequate hydraulic connection between the aquifer and the well. Depending on the depth and amount of sediment in the well, development should be completed via mechanical surging using either a bailer or an electric submersible pump, or by airlift techniques. The investigation derived waste (IDW) and purge water should be disposed of per the PADEP Northeast Regional Office (NERO) guidance; check with the NERO for current requirements. Bidders will be responsible for arranging any offsite waste disposal (if required) and including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid. The groundwater may be temporarily stored on site, but should be removed from the Site in a timely manner;

- Soil/rock cuttings and liquids generated during the drilling activities should be disposed of offsite in a manner consistent with the protocols set forth by the PADEP. Disposal of soil/rock cuttings should be arranged through a certified

waste disposal subcontractor. In an effort to eliminate or minimize the need for change orders on a fixed price contract, please include costs to dispose of all anticipated volumes of waste in your bid response. ICF and PAUSTIF will not entertain any assumptions on the contract with regards to a volume of waste (i.e. project costs assume that no more than one (1) ton of soil cuttings will require disposal after the installation of the additional monitoring wells). Bidders will be responsible for including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid.

- Compile the field observations into comprehensive monitoring well construction diagrams and logs.

- As discussed above, it is unknown if sufficient groundwater will be encountered to permit sampling. Therefore, monitoring and sampling of the shallow monitoring wells will be addressed as *Optional Cost Adder #1* if sufficient water is present.

Task 2.4 Site Survey – Following the advancement of the proposed soil borings, installation of the temporary monitoring wells, and soil gas sampling points, a professional survey of the Site by a Pennsylvania-licensed surveyor including all current Site features (e.g., buildings, property boundaries, monitoring wells, vapor sampling points, etc.) shall be completed. All monitoring wells, borings, the Site building, property boundaries, important Site features are to be surveyed with the purpose of placing their horizontal coordinates on a scaled Site map. The benchmark elevation shall be obtained by referencing the approximate ground surface elevation of the property or from an available benchmark from a USGS topographic map or benchmark elevation marker located at the Site. In conjunction with collecting depth to groundwater readings during sampling events and in an effort to establish groundwater flow at the Site, tops of casing for the monitoring wells are to be surveyed to facilitate the construction of a Site wide groundwater flow map. In addition, the presence of SPL (if detected) needs to be taken into consideration when calculating the static water levels in the wells and constructing a Site wide groundwater flow map. Groundwater elevation data collected following the installation of the monitoring wells along with data from the Site survey will be utilized to produce a series of summary figures which will provide additional information as to the groundwater flow direction.

<u>Task 3.0 Site Characterization Report:</u>

Task 3.1 Preparation of a Site Characterization Report - Following the completion of the activities proposed in Task 1.0 and Task 2.0 as well as the optional cost adders (if necessary), the selected consultant will prepare a SCR for the Site. The information gathered during the aforementioned tasks should be incorporated into a comprehensive

SCR that will be submitted to the PADEP and will facilitate the objective to complete regulatory requirements governing the SCR and gain PADEP approval for the report. Specifically, the report should summarize the results of the recent investigations, the findings of the previous investigations, a comprehensive Site history, sensitive receptor information, risk assessment, geologic data, results and analysis of the aquifer testing (if completed), discussion on the completed remediation efforts, summary of the predictive modeling efforts completed (if completed), and a series of summary tables, appendices, and figures illustrating the information provided in the report.

The Report will be completed following the guidelines specified in Pennsylvania Code, Title 25, Chapter 245 and the Land Recycling Program (Act 2) Technical Guidance Manual for a Site Characterization Report. The selected consultant will also present significant conclusions and make recommendations for future work at the Site in the SCR. The report will be appropriately signed and sealed by a licensed Professional Geologist.

Within 90 days of contract execution, a draft SCR and all AutoCAD maps / plans included in the report (e.g., Site plan / base map, groundwater elevation maps, dissolved plume maps, soil contaminant distribution maps, etc.) and appendices (e.g., boring logs, tables, waste disposal documentation, aquifer testing and analysis, transducer survey results and analysis, and sensitive receptor information) shall be submitted electronically (in Adobe PDF format) and in hard copy to the Solicitor, ICF / USTIF and the Technical Contact for review / comment prior to finalizing the SCR. Once the selected consultant has addressed comments on the draft, the selected consultant shall finalize and issue the report to the PADEP. The draft report is to be submitted no later than the date specified in the schedule presented by the selected bidder.

Task 4.0 Risk Assessment and Feasible Remedial Alternatives Analysis:

Task 4.1 Risk Assessment Evaluation – A risk assessment evaluation shall be completed consistent with the guidelines provided in the Act 2 Guidance Manual (applicable portions of *Sections II.C.4 IV.G and IV.H*). These sections provide general information on risk assessment; developing Site appropriate standards; discuss potential for pathway elimination; and guidance on site-specific human health assessment procedures. This guidance should be followed to conduct a risk assessment. Results of the risk assessment should be taken into consideration when developing a feasible remedial strategy and determining which standards would be appropriate for the Site. Results of the evaluation should be discussed in the Risk Assessment and Feasible Remedial Alternatives Analysis Report.

Task 4.2 – Remedial Alternatives Analysis - A Remedial Alternatives Analysis should be completed for the Site to compare cleanup alternatives and evaluate which remedial action is most appropriate for the Site. The evaluation should specifically focus on eight (8) key considerations including cost-effectiveness, proven performance, public and environment protectiveness, regulatory compliance, reliability, practical implementation, health & safety and effects on public health and the environment. The findings of the

Remedial Alternatives Analysis will be summarized and presented as part of the Risk Assessment and Feasible Remedial Alternatives Analysis Report. Information/data generated during the interim remedial activities conducted at the Site should be taken into consideration.

Task 4.3 – Risk Assessment and Feasible Remedial Alternatives Analysis Report - Following the completion of the proposed Risk Assessment Evaluation and Remedial Alternatives Analysis, a Risk Assessment and Feasible Remedial Alternatives Analysis Report should be prepared for the Site. The report should detail the procedures and findings from the completed SCR and describe the calculations and resultant estimate of the amount of hydrocarbon mass present in the Site's subsurface. It should also take into consideration and summarize the assumption, parameters, and predictions from the predictive modeling scenarios included in the SCR. Figures and appendices supporting the findings of the report should be attached to further illustrate the current condition of the Site. The report should appropriately evaluate the Site and assess the risks as well as provide a proper closure strategy and remedial alternative for the Site.

All AutoCAD maps / plans included in the report (e.g., Site plan / base map, proposed remediation location map, dissolved plume maps, soil contaminant distribution maps, etc.) and appendices (e.g., boring logs, tables, remediation technology information, fate and transport modeling, risk assessment and sensitive receptor information) shall also be submitted electronically on CD (both native and PDF formats) and in hard copy to Solicitor and Technical Contact for review / comment prior to finalizing it. Once the selected consultant has addressed comments on the draft, the selected consultant shall finalize and issue the report to the PADEP.

Optional Cost Adders:

Task 1.0 through Task 4.0 above represents the base Scope of Work for this RFB solicitation. These tasks have been specifically developed in an effort to complete the PADEP's Site characterization requirements. In addition to the base Scope of Work tasks, ***Optional Cost Adders*** are being requested for the following tasks:

- ***Optional Cost Adder #1*** –Provide a Unit Cost to conduct a groundwater monitoring and sampling event from the shallow monitoring wells if sufficient water is present. For purposes of this optional cost adder, you should assume sampling a total of three (3) monitoring wells. Additional wells above three (3) will be billed on an incremental basis in Optional Cost Adder #5. The selected consultant should be prepared to conduct the first groundwater-sampling event at the Site approximately two (2) weeks after the installation of the proposed monitoring wells and conduct the second event approximately six (6) weeks after the first event.

Each event should include the following:

- Collect water level readings from each of the monitoring wells using an interface probe capable of distinguishing water and/or the presence or absence of product to the nearest 0.01 feet.

- Record the depth to water readings from the monitoring wells and then use the data to determine water level elevations such that groundwater flow direction can be confirmed.

- Groundwater sampling activities should be conducted in accordance with generally accepted practices as outlined in the final version of the PADEP Groundwater Monitoring Guidance Manual.

- Prior to the collection of groundwater samples, the water column in each of the monitoring wells should be purged by either the removal of approximately three (3) volumes of the water column or via low flow sampling method.

- Sampling equipment should be decontaminated prior to sample collection in accordance with generally accepted industry practices.

- Following purging activities, groundwater samples should be collected as quickly as practical from each of the wells directly into laboratory-supplied bottleware.

- The IDW and purge water should be disposed of per the PADEP Northeast Regional Office (NERO) guidance; check with the NERO for current requirements. Bidders will be responsible for arranging any offsite waste disposal (if required) and including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW.

- Samples should be properly handled under chain of custody documentation protocol and kept cold from sample collection until the samples are relinquished to the accredited laboratory.

- Samples should be analyzed for the PADEP expanded Petroleum Hydrocarbon Constituents list for unleaded gasoline components using laboratory method 8260B in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2 (benzene, toluene, ethylbenzene, and xylenes (BTEX); cumene; naphthalene; methyl tert-butyl ether (MTBE), 1,2,4-TMB, and 1,3,5-TMB.

- In addition to the samples collected from the monitoring wells, one (1) duplicate sample and one (1) equipment blank sample will be collected and submitted per day of sampling.

- The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the solicitor and PAUSTIF (or its designated representative).

- ***Optional Cost Adder #2*** – Provide a Unit Cost to install one (1) bedrock groundwater monitoring well. As part of the installation of the bedrock wells, the selected consultant should consider the following:

  - All monitoring well locations will be advanced in the locations proposed by the selected consultant with approval of the technical consultant, unless the presence of utilities, obstructions, or safety concerns requires a change in the location.

  - The bedrock well will be advanced to a total estimated depth of 80 feet below grade (ftbg) with approximately 60 feet of four-inch diameter, schedule 40 PVC flush threaded casing and approximately 20 feet of four-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screening. The annular space around and two feet above the screen should be filled with well grade sand and the casing should be sealed accordingly. Please note that the estimated construction specifications provided above may need to be altered during drilling as dictated by actual Site conditions.

  - A flush-mounted manhole shall be cemented into place to complete the well at grade level. A locking, pressure fit, watertight cap will be used to prevent the infiltration of surface runoff and rainwater and to restrict access by unauthorized individuals.

  - The wells should be drilled and constructed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001). Based on anticipated drilling conditions, a Pennsylvania-licensed driller should install the wells using air-rotary methods.

  - Drilling should be conducted under the supervision of a Pennsylvania-licensed Professional Geologist, although a field supervisor may be used in the field on a day-to-day basis. The field supervisor should visually inspect subsurface materials encountered during drilling, screen cuttings with a PID, and complete field well construction logs. When encountered, soils should be described using the Unified Soil Classification System. Bedrock should be described using USGS descriptive protocol, with the identification of the depth of and size of potential fractures and/or other subsurface anomalies.

  - The newly installed monitoring wells should be developed to promote adequate hydraulic connection between the aquifer and the well. Depending on the depth and amount of sediment in the well, development should be completed via mechanical surging using either a bailer or an electric submersible pump, or by

airlift techniques. The IDW and purge water should be disposed of per the PADEP Northeast Regional Office (NERO) guidance; check with the NERO for current requirements. Please note that the management of the groundwater removed from the well during development shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance and Department directives.

- Soil/rock cuttings and liquids generated during the drilling activities should be disposed of offsite in a manner consistent with the protocols set forth by the PADEP. Disposal of soil/rock cuttings should be arranged through a certified waste disposal subcontractor. In an effort to eliminate or minimize the need for change orders on a fixed price contract, please include costs to dispose of all anticipated volumes of waste in your bid response. ICF and PAUSTIF will not entertain any assumptions on the contract with regards to a volume of waste (i.e. project costs assume that no more than one (1) ton of soil cuttings will require disposal after the installation of the additional monitoring wells). Bidders will be responsible for including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid.

- Compile the field findings into comprehensive monitoring well construction diagrams and logs.

- This unit cost may be utilized for a single well or multiple wells based on Site conditions.

- ***Optional Cost Adder #3*** – Provide a Unit Cost to extend the above referenced bedrock monitoring well beyond the specified eighty foot (80') estimated total depth on a per linear foot basis. This cost should be all inclusive for well installation, development, survey, and waste disposal. This unit cost may be utilized for a single well or multiple wells based on Site conditions.

- ***Optional Cost Adder #4*** –Provide a Unit Cost to conduct a groundwater monitoring and sampling event from the above referenced bedrock monitoring wells. For purposes of this optional cost adder, you should assume sampling a total of three (3) monitoring wells. Additional wells above three (3) will be billed on an incremental basis in Optional Cost Adder #5. The selected consultant should be prepared to conduct the first groundwater sampling event at the Site approximately two (2) weeks after the installation of the proposed monitoring wells and conduct the second event approximately six (6) weeks after the first event.

Each event should include the following:

- Collect water level readings from each of the monitoring wells using an interface probe capable of distinguishing water and/or the presence or absence of product to the nearest 0.01 feet.

- Record the depth to water readings from the monitoring wells and then use the data to determine water level elevations such that groundwater flow direction can be confirmed.

- Groundwater sampling activities should be conducted in accordance with generally accepted practices as outlined in the final version of the PADEP Groundwater Monitoring Guidance Manual.

- Prior to the collection of groundwater samples, the water column in each of the monitoring wells should be purged by either the removal of approximately three (3) volumes of the water column or via low flow sampling method.

- Sampling equipment should be decontaminated prior to sample collection in accordance with generally accepted industry practices.

- Following purging activities, groundwater samples should be collected as quickly as practical from each of the wells directly into laboratory supplied bottleware.

- The IDW and purge water should be disposed of per the PADEP Northeast Regional Office (NERO) guidance; check with the NERO for current requirements. Bidders will be responsible for arranging any offsite waste disposal (if required) and including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW.

- Samples should be properly handled under chain of custody documentation protocol and kept cold from sample collection until the samples are relinquished to the accredited laboratory.

- Samples should be analyzed for the PADEP expanded Petroleum Hydrocarbon Constituents list for unleaded gasoline components using laboratory method 8260B in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2 (benzene, toluene, ethylbenzene, and xylenes (BTEX); cumene; naphthalene; methyl tert-butyl ether (MTBE), 1,2,4-TMB, and 1,3,5-TMB.

- In addition to the samples collected from the monitoring wells, one (1) duplicate sample and one (1) equipment blank sample will be collected and submitted per day of sampling.

- The laboratory to be utilized should be identified in the bid package. Upon receipt of the results, the consultant should forward a copy of the analytical data to the solicitor and PAUSTIF (or its designated representative).

- ***Optional Cost Adder #5*** **–** Provide a Unit Cost to monitor and sample an additional well beyond the above-specified three (3) wells on a per well basis. This cost should be all-inclusive for gauging, sampling, laboratory analysis, and waste treatment/disposal. This unit cost may be utilized for a single well or multiple wells based on Site conditions.

- ***Optional Cost Adder #6*** **–** Provide a Unit Cost to Prepare a Summary Progress Report for submittal to the PADEP. The Progress Report should detail the observations documented during the event, summarize the analytical results, map the groundwater flow direction for the Site, provide iso-concentration maps for compounds exceeding the SHS, provide hydro-graphs, discuss the interim remediation efforts (if any), and provide additional scheduling details for upcoming events. Once the report is approved by the Solicitor, the report can be finalized and submitted to the PADEP. The progress reports discussed are being proposed to meet the PADEP obligation on progress reporting before RAP approval.

- ***Optional Cost Adder #7*** **–** Provide a Unit Cost to install one (1) shallow groundwater monitoring well. The scope of work for this cost adder is to install the well to a total estimated depth of 20 feet below grade (ftbg) with approximately 5 feet of four-inch diameter, schedule 40 PVC flush threaded casing and approximately 15 feet of four-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screening. The wells should be drilled and constructed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001). Based on anticipated drilling conditions, a Pennsylvania-licensed driller should install the wells using hollow stem auger and/or air-rotary methods. This cost should be all inclusive for well installation, development, survey, and waste disposal.

- ***Optional Cost Adder #8*** **–** Provide a Unit Cost to convert the three (3) shallow temporary well points in properly constructed permanent shallow groundwater monitoring wells. The scope of work for this cost adder is to drill the wells to a total estimated depth of 20 feet below grade (ftbg) with approximately 5 feet of four-inch diameter, schedule 40 PVC flush threaded casing and approximately 15 feet of four-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screening. The wells should be drilled and constructed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001). Based on anticipated drilling conditions, a Pennsylvania-licensed driller should install the wells using hollow stem auger and/or air-rotary methods. This cost should be all inclusive for well installation, development, survey, and waste disposal.

- ***Optional Cost Adder #9*** **–** Provide a Unit Cost to conduct aquifer testing activities at the Site as follows:

Slug Tests – Rising head slug testing will be conducted on three (3) of the monitoring wells at the Site. A PVC slug will be used to displace the static water level in the well while a transducer will record water levels before the slug is placed in the well, during the recovery of the water level back to the original static water level, and following the removal of the slug. Transducers should be used to monitor the water levels in the wells during each of the slug tests. The data collected by the transducer during the slug tests, the selected consultant will calculate Site-specific hydrogeologic values including permeability. All of the calculated values will allow for the modeling efforts and risk assessment activities to be conducted with Site specific data rather than using published values. In addition, the data collected during the slug testing of the monitoring wells will be evaluated to determine the appropriate monitoring well to be used for the step test and the eight (8) hour pump test. Results from the slug testing activities are to be summarized and included in the SCR to be submitted to PADEP.

Step Test – The monitoring well demonstrating the highest permeability during the slug test will be used for the step test and the subsequent eight (8) hour pump test. The selected consultant will conduct a two-hour step test on the well determined by the slug test results to have the highest permeability. The data collected during the step drawdown test will be used to determine an optimal pumping rate and yield for the constant rate pumping test. Results from the step testing activities are to be summarized and included in the SCR to be submitted to PADEP.

Pump Test – Once the pumping rate has been determined, an eight (8) hour constant-rate pumping test will be conducted by the selected consultant on the selected monitoring well at the Site. Transducers will be used to monitor the resultant water levels in the pumping well and surrounding overburden and bedrock monitoring wells to be determined at a later date. Also, the remaining monitoring well network should be gauged periodically throughout the test to provide additional aquifer characterization data. Data collected during the constant-rate pumping test will be analyzed and used to calculate Site specific aquifer values including hydraulic conductivity, transmissivity, storage capacity, and groundwater seepage velocity. All of the calculated values will allow for the modeling efforts and risk assessment activities to be conducted with Site specific data rather than using published values. Results from the pump testing activities are to be summarized and included in the SCR to be submitted to PADEP. The IDW and purge water should be disposed of per the PADEP Northeast Regional Office (NERO) guidance; check with the NERO for current requirements. Bidders will be responsible for arranging any offsite waste disposal (if required) and including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW. In an effort to eliminate or minimize the need for change orders on a fixed price contract, please include costs to dispose of all anticipated volumes of waste in your bid response. ICF and PAUSTIF will not entertain any assumptions on the contract with regards to a volume of waste (i.e. Project costs assume that no more than 1,000 gallons of groundwater will require disposal after the completion of the pump test). Bidders will be responsible for including costs in their bid response to cover the disposal of all

potential waste related to the tasks included in the SOW. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid. The groundwater may be temporarily stored on Site, but should be removed from the Site in a timely manner.

- ***Optional Cost Adder #10*** – Provide a Unit Cost to extend the Pump test for four (4) additional hours at the Site. The pump test would be extended if stabilization does not occur by the end of the eight (8) hour pump test.

- ***Optional Cost Adder #11*** – Provide a Unit Cost to update the Site's survey to include any necessary additional well location(s) or soil gas point(s) not included in the base scope of work. This is a fixed price unit cost per well or soil gas point. The scope of work for this cost adder should follow Task 2.4.

- ***Optional Cost Adder #12*** – Provide a Unit Cost to complete fate and transport modeling if needed. Fate and Transport evaluations shall be completed as appropriate and consistent with Act 2 guidance documents in order to assess the potential for contaminant migration. This evaluation should take into consideration both the groundwater and soil exceedances at the Site. Each firm should evaluate the data and Site specific information provided and determine the most applicable model or models needed to complete appropriate fate and transport analysis for the Site. Please specify which modeling software will be used to predict fate and transport of the constituents of concern exceeding the PADEP statewide health standards in groundwater at the release location and its applicability to the Site.

- ***Optional Cost Adder #13*** – Provide a Unit Cost to prepare a combined SCR/RAP for submittal to the PADEP instead of a SCR. The RAP portion of the report would propose eight (8) quarters of groundwater attainment monitoring. The costs included in this optional cost adder would just be the additional costs needed to write the SCR/RAP above and beyond the costs included in the bid response to write the SCR.

- ***Optional Cost Adder #14*** – Provide a Unit Cost to install one (1) additional soil gas point and conduct two (2) sampling events on the newly installed soil gas point. The work should be completed in a manner consistent with the Land Recycling Technical Guidance Manual – Section IV.A.4 Vapor Intrusion Into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standards, Document 253-0330-100, dated January 24, 2004. Samples should be collected in laboratory provided Summa canisters equipped with laboratory calibrated flow regulators and analyzed for the PADEP Constituents list for unleaded gasoline via TO-15.

- ***Optional Cost Adder #15*** – Provide a Unit Cost to install one (1) additional soil boring during completion of the Task 2.1 Soil Boring Investigation. The scope of work for this cost adder is to advance the boring to a total estimated depth of 25 feet below grade (ftbg) logging continuously and collection and analysis of two (2) soil samples consistent with

requirements discussed in Task 2.1. This cost should be all-inclusive for boring installation, logging, sampling, laboratory analysis, and waste disposal.

- ***Optional Cost Adder #16*** – Provide a Unit Cost to collect one (1) additional soil sample during completion of the Task 2.1 Soil Boring Investigation. Task 2.1 discusses minimum sampling requirements. If field observations indicate additional soil samples are necessary the P.G. shall utilize their professional judgment and collect appropriate additional soil samples as necessary. The scope of work for this cost adder is collection and analysis of one (1) soil sample consistent with requirements discussed in Task 2.1. This cost should be all-inclusive for sample collection, laboratory analysis, and waste disposal. The selected consultant may collect up to two (2) additional soil samples with this cost adder based on field observations and professional judgment. Collection of three (3) or more additional soil samples will require verbal pre-approval from the Solicitor and Technical Contact.

SCHEDULING

As part of this RFB, the selected consultant shall be prepared to install the new monitoring wells at the Site within 15 days of the contract being executed and submit the draft SCR to the Solicitor, ICF / USTIF and the Technical Contact within 90 days of the contract being executed. In addition, a detailed schedule indicating when specific activities and reports (soil investigation, aquifer testing, report submittal, groundwater sampling, well installation activities, etc.) will be completed needs to be prepared and included in the bid response. All on-site work should be completed during the normal working days and hours of 8 am to 5 pm from Monday through Friday.

RESPONSIBILITY

The selected consultant will be the consultant of record for the Site. They will be required to take ownership and responsibility for the project and will be responsible for representing the interests of the Solicitor and ICF/USTIF with respect to the project. This includes utilizing their professional judgment to ensure reasonable and appropriate actions are recommended and undertaken to protect sensitive receptors, adequately characterize the Site, and move the Site towards closure.

QUALIFICATION QUESTIONS

Proposals need to provide answers to the five (5) qualifications and experience questions provided below:

- Does your company employ the Pennsylvania licensed Professional Geologist (P.G.) that is designated as the proposed project manager? How many years of experience does this person have?

- How many Chapter 245 projects are your company currently consultant on record for in the Northeast region and all regions of Pennsylvania?

- How many Chapter 245 projects have your company and/or the proposed Pennsylvania licensed P.G. worked on in the Northeast region and all regions of Pennsylvania during the last five (5) years?

- How many Chapter 245 projects have your company and/or the Pennsylvania licensed P.G. closed (i.e., obtained relief from liability from the PADEP) using either the Statewide Health Standards or Site Specific Standards? Please list.

- Has your company ever walked away from a PAUSTIF Fixed Price Contract or Pay For Performance contract without attaining all of the Milestones? If so, please explain why the contract was not fulfilled?

CONTRACT INFORMATION AND BID INSTRUCTION

The Solicitor wishes to execute a mutually agreeable fixed price contract based on unit prices for labor, equipment, materials, subcontractors/vendors and other direct costs. The prices provided in the bid will remain in effect for the duration of the project (i.e. no escalation clause). The total fixed cost quoted by the selected consultant will be the maximum amount to be paid by the Solicitor unless a change of scope is authorized and determined to be reasonable, necessary, and appropriate. *Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable". These variable cost items will not be handled outside of the total fixed-price quoted for the SOW. Any bid response that disregards this requirement will be considered non-responsive to the bid requirements and; as a result, will be rejected and will not be evaluated.* A copy of the proposed fixed price contract is included in Attachment 3.

The bidding firm will need to include the following in their proposal:

- A demonstration of the bidder's understanding of the objectives of the project and the bidders approach to achieving those objectives efficiently based on the existing Site information provided in this RFB;

- Provide a clear description, specifics, and original language of how the proposed work scope will be completed. The bid package should specifically discuss all tasks that will be completed under the fixed price contract and what is included (i.e. explain your groundwater sampling method, which guidance documents will be prepared, what will be completed as part of the SRS, etc.);

- A fixed price cost estimate for work through the completion of the characterization activities;

- Provide a detailed schedule of activities for completing the proposed scope of work inclusive of reasonable assumptions regarding the timing and duration of Solicitor reviews (if any) needed to complete the scope of work;

- Indication of whether the bidder accepts or seeks changes to the proposed contract / terms and conditions;

- The bidder's level of insurance;

- The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs and equipment;

- The bidder's proposed markup on other direct costs and subcontractors (if any);

- Identify and describe the involvement of subcontractors;

- Identify any exceptions, assumptions, or special conditions applicable to scope;

- Cost by task and total costs must be defined within the proposal text and on the cost spreadsheet (Attachment 2);

- The bidder's total cost by task consistent with the proposed scope of work identifying all level-of-effort and costing assumptions;

- A statement of qualifications including that of any major subcontractor(s);

- Describe your approach to working with the PADEP from project inception to submittal of the SCR. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed of activities at the Site;

- Describe how the Solicitor and ICF/PAUSTIF will be kept informed as to project progress and developments and how the Solicitor (or designee) will be informed of and participate in evaluating technical issues that may arise during this project;

- Answers to the qualification questions discussed in the RFB;

- Complete the provided Milestone Payment Schedules included as Exhibit B and Exhibit C in the contract included as Attachment 3; and

- Identify the names of the proposed project team for the key project staff, including the proposed Professional Geologist of Record who will be responsible for overseeing the work and applying a professional geologist's seal to the project deliverables.

- If a firm feels it is appropriate and necessary to complete hole-clearing activities, the cost should be included in their proposal and costs. More importantly, if a firm

includes the cost to complete hole-clearing, they should specify it in their proposal and discuss why it is appropriate and necessary and indicate which methods will be utilized and to what extent. As discussed in the RFB, cost is not the only factor when evaluating proposals and other factors are taken into consideration during the review process, including appropriate safety measures.

- Bids should provide an appropriate total cost in the summary and detailed cost spreadsheets, milestone schedules, and text to cover the SOW presented in the RFB text. Specifically, if the bid proposes the completion of two (2) quarterly groundwater-sampling events, then the costs to complete both events should be included in the cost listed on the spreadsheets for that task. The total costs provided on the cost spreadsheet should not just include the completion of one (1) quarterly event.

- Please make sure that costs provided for each task are consistent between the submitted attachments (i.e. cost provided for the soil boring investigation is listed as $4,000.00 in the detailed cost sheet, both milestone payment schedules (Schedule B and Schedule C), and the text of the submitted bid). If a discrepancy in costs is noted during the review of the bids, the costs listed in the detailed cost sheet (Attachment 2) will be used as the costs during the bid evaluation.

The bidder shall provide its bid using the format identified in this RFB and will provide brief descriptions of each task in the body of the bid document. In addition, the bidder will complete the detailed cost sheet included as Attachment 2. An electronic version of the cost spreadsheet included in Attachment 2 (in Microsoft Excel Format) has been provided.

In addition to the cost spreadsheets, each bidder should modify the Milestone / Proposed Payment Schedules included as Exhibit B and Exhibit C (in Microsoft Word Format) of the fixed price contract in Attachment 3 to reflect the bidder's anticipated time schedule. The detailed cost spreadsheet and the RFB SOW will be incorporated as attachments to the Fixed Price Contract (also included in Attachment 3). Actual milestone payments will occur after all tasks in the milestone (as documented in Exhibit B and Exhibit C in the Fixed Price Contract) have been successfully completed and results (reports, analytical data package, boring logs, etc.) have been provided to the Solicitor and ICF/USTIF.

Please bid the scope of work as provided in the RFB. Consultants are welcome to propose or suggest a change in the SOW; however the consultant should bid the SOW as presented in the RFB and provide any suggested modification to the SOW and provide the cost difference (+ or -) separately in the proposal.

The scope of work, as described in this RFB, shall be conducted in accordance with industry standards / practices, and consistent with the PADEP requirements and guidelines. The selected consultant's work to complete the tasks discussed will be subject to ongoing review by the PAUSTIF or its representatives to assess whether the work actually completed and the associated incurred costs are reasonable, necessary, and appropriate.

In order to facilitate PAUSTIF's review and reimbursement of invoices submitted under this claim, the Solicitor requires that project costs be invoiced by the tasks identified in the bid. The standard practice of tracking total cumulative costs by bid task will also be required to facilitate invoice review.

The bid responses must clearly and unambiguously accept the provided contract or must clearly cross reference any requested changes.

In an effort to eliminate or minimize the need for change orders on a fixed price contract, please include costs to dispose of all anticipated volumes of waste in your bid response. ICF and PAUSTIF will not entertain any assumptions on the contract with regards to a volume of waste (i.e. Project costs assume that no more than 500 gallons of groundwater will extracted during the aquifer testing and require disposal). Bidders will be responsible for including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW. All waste generated during the completion of tasks related to the SOW may be temporarily stored on Site, but must be disposed of offsite in a timely manner. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid.

Each bid package received will be assumed to be good for a period of 120 days after receipt unless otherwise noted. Please note that ICF, PAUSTIF, and B&B will treat the bids as confidential, but that limited general information may be released by the solicitor and/or B&B after the bid selection process is completed. The aforementioned guidance document can provide you with additional information of the bidding process.

MANDATORY SITE VISIT

On September 25, 2012, the Technical Contact (or designee) will be at the Site at 10:00 am to answer questions and conduct a Site tour for a limited number of participants per firm. Please inform the Technical Contact at least five (5) business days in advance of the aforementioned meeting date as to whether your firm will be in attendance. In order to accurately track meeting participants, the subject line of the email must state the following: Art's Servicenter Bid Walk Claim No. 09-141(F). **Any firm that does not attend the September 25, 2012 mandatory site visit will not be eligible to submit a bid response.**

ATTACHMENTS

Attachment 1 – Tables, Figures, Historical Documentation and Correspondence

- Attachment 1a – Figures
  - Figure 1 – Site Location Map
  - Figure 2 – Surrounding Properties Map
  - Figure 3 – Site Plan
  - Figure 4 – Proposed Soil Boring and Soil Gas Sampling Location Map
- Attachment 1b – Summary Data Tables
  - Table 1 – Soil Results – Post Excavation
  - Table 2 – Soil Results – Site Characterization
- Attachment 1c – UST Closure Report dated January 15, 2010
- Attachment 1d – Site Characterization Report dated June 2010
- Attachment 1e – PADEP SCR Disapproval Letter dated May 11, 2011
- Attachment 1f – PADEP Work Plan Review Letter dated March 13, 2012

Attachment 2 – Detailed Cost Sheet
Attachment 3 – Draft Fixed Price Contract