

**COMPETITIVE BID SOLICITATION FOR
THE COMPLETION OF REMEDIATION AND CLOSURE ACTIVITIES**

Calfo's Service Station
4073 Beechwood Boulevard
Pittsburgh, PA 15217
PADEP FACILITY ID #02-28587
PAUSTIF CLAIM #2005-0102(S)

ICF International (ICF), on behalf of the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF) and 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 supplemental site Characterization, remediation, and closure activities for the Calfo's Service Station Facility (Site). A petroleum release to both soil and groundwater has been confirmed at the Site and the Pennsylvania Department of Environmental Protection (PADEP) characterization requirements have been met. In addition, a previously submitted Remedial Action Plan (RAP) and Remedial Action Plan Addendum (RAPADD) were approved by PADEP. The Solicitor has an open claim (Claim #2005-0102(S)) with the Pennsylvania Underground Storage Tank Indemnification Fund (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.

While site characterization and a RAP/RAPADD have been approved by PADEP (with modifications), additional groundwater characterization and revisions to the existing remediation system design are needed before implementation of the RAP. Recommendations for additional groundwater characterization (additional monitoring wells) and revisions to the remediation system have been provided to and approved by PADEP. The additional characterization includes the proposed installation of one monitoring well cluster (one shallow and one deep) offsite. The approved RAPADD proposed the use of vacuum enhanced groundwater extraction (VEGE) as the remedial technology, which is appropriate based on the pilot studies completed for the Site. The required revisions to the RAPADD remediation system design include the recommended installation of three (3) to five (5) additional shallow soil vapor extraction treatment points onsite in the source area and related revision to the process equipment specifications. The aforementioned RAP and RAPADD also discussed that the selected standards for this Site would be set to Site Specific Standards (SSS) (pathway elimination) for groundwater use at all point of compliance wells, Statewide Health Standards (SHS) for Groundwater to Indoor Air, SSS (pathway elimination) for Soil to Groundwater pathways, and SHS for Soil to Indoor Air.

This RFB includes five (5) major components with subtasks presented in an outline format for cost analysis and implementation. The fixed costs proposed by the bidders 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 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 groundwater characterization, prepare a revised design for a VEGE remediation system, discuss and present the additional groundwater characterization and revised remediation system design in a RAP Addendum that is acceptable to the PADEP, implement the remedial strategy, and facilitate site closure in a timely, efficient, and cost effective manner.

Should your company elect to respond to this RFB Solicitation, one (1) hard copy and one (1) electronic copy (on CD) of the signed bid package must be sent to the attention of the ICF Representative at the address provided in the RFB. **The signed response (electronic and hardcopy) to this RFB must be provided to the ICF Representative, at the address provided in the RFB, no later than close of business (5 p.m. EST) on Friday, September 9, 2011.** In addition, the outside of the package must be clearly labeled with "Bid – Claim 2005-0102(S)". Please note that ICF and PAUSTIF will no longer be accepting the electronic version via email and that the signed bids (electronic and hardcopy) for this RFB must be received at the ICF office no later than close of business (5 p.m. EST) on the provided deadline for the submitted bid to be considered. **To reiterate, no bid responses should be emailed to the ICF representative. The electronic version must be provided on CD and delivered with the hard copy to the ICF representative by the provided deadline. Please note that the entire electronic submission needs to be included in one comprehensive PDF file, rather than split over multiple files.**

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.

SOLICITOR AND TECHNICAL CONTACT INFORMATION

ICF Representative

Mr. Gerald Hawk
ICF International
4000 Vine Street
Middletown, PA 17057
Email: jerryhawk@comcast.net

Technical Contact

Mr. Timothy J. Pilcher, P.E.
B&B Diversified Enterprises, Inc.
PO Box 16
Barto, PA 19504
Telephone: (570) 992-3582
Fax: (570) 992-3582
Email: tpilcher@bbde.com

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: Calfo's Service Station RFB Questions Claim No. 2005-0102(S). 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.

NOTE: Submitted bid responses are subject to Pennsylvania's Right-to-Know Law.

SITE LOCATION, OPERATION, AND BACKGROUND INFORMATION

Site Address

Calfo's Service Station
4073 Beechwood Boulevard
Pittsburgh, PA 15217
Allegheny County

Site Location and Operation Information

The Site is an active retail gasoline and service station operated by Mr. Regis Calfo and located at the intersection of Beechwood Boulevard and Ronald Street in Pittsburgh, Pennsylvania. The property has been owned by Prudential Realty Company since 1944. The Site is approximately 1/3rd acre in size. As a retail fueling station, unleaded gasoline dispensing equipment and systems are located at the Site as well as a one (1) story building. The current gasoline underground storage tank (UST) field is located on the east side of the Site adjacent to and beneath dispenser islands and contains three (3) USTs with capacities of 6,000 gallons, 6,000 gallons, and 8,000 gallons. Active dispensers are located to the east of the station building. The surrounding properties are a mix of residential and commercial properties. An operating retail gasoline service station is located to the east of the Site across Ronald Street, and historical document

reviews indicate that a gasoline station was also located to the north east of the Site across the intersection of Beechwood Boulevard and Ronald Street. The Site and surrounding properties are provided with water from the Pittsburgh Water and Sewer Authority (PWSA). A Site Plan is provided as Figure 1.

Site Background Information

The Site was first developed as a service garage and filling station between 1905 and 1925. In June 2005, a 1,000 gallon steel UST reportedly used to store used motor oil and waste gasoline was closed in place. This UST is located partially underneath the northern area of the station building. During the UST closure activities, a petroleum release was discovered, and subsequently, site characterization activities were initiated. A Site Characterization Report dated December 18, 2007 was submitted to PADEP for review and was approved in PADEP's letter dated April 7, 2008. The SCR is included in Attachment 1 of this RFB. A summary of the SCR is provided below.

In addition to the current UST system and the 1,000 gallon closed in place UST, review of Sanborn Fire Insurance Maps and a Ground Penetrating Radar and metal detection survey conducted in September 2007 indicated the potential presence of three (3) additional USTs. The locations of these potential USTs are shown on Figure 3 of the December 2007 SCR, which is included in Attachment 1 of this RFB. Based on the UST closure investigation and site characterization data, the primary source of contaminants at the Site is the 1,000 gallon UST that was closed in place in June 2005.

From June 2006 through November 2007, site characterization activities were completed including the advancement of 35 soil borings, 17 of which were converted to monitoring wells, collection of soil samples, four quarters of groundwater monitoring and sampling, rising head slug tests, soil gas sampling, and a groundwater use survey within 1,000 feet downgradient of the Site. In addition, during this period, two interim remedial actions (IRA) were implemented including manual liquid phase product (LPH) recovery and excavation and disposal of approximately 536 tons of source area soils.

Monitoring wells MW-1 through MW-4 were installed on July 5-7, 2006. Five (5) vapor sampling points (VP-1 through VP-5) and shallow monitoring wells MW-1S and MW-5 were installed on February 21, 2007. Monitoring wells MW-6 through MW-8 were installed on March 9-9, 2007. Thirteen soil borings (SB-9 through SB-21) were advanced in the source area on June 5, 2007. Monitoring wells MW-9 through MW-13 were installed on June 12-14, 2007. Finally, monitoring wells MW-9D, MW-14, and MW-15 were installed on September 4-6, 2007.

Based on the SCR documentation, site specific geology typically consists of 5 to 10 feet of clayey silt overlying approximately 5 feet of red, highly weathered bedrock, which grades to competent siltstone. The depth to bedrock is shallowest in the source area and deepens to the east. Based on boring logs, depth to weathered bedrock typically ranges from 3.5 feet below surface grade (bsg) in MW-2 to 16 feet bsg (MW-12 and MW-13); however weathered bedrock

was encountered at 42.5 feet bsg in MW-10. Competent bedrock typically ranges from 10 feet bsg (MW-1D) to 18 feet (MW-3R1), however, competent bedrock was deeper than 42.5 feet bsg (not encountered) in MW-10.

A total of fifty-six soil samples were submitted to a laboratory for analysis. Initially, the soil samples were analyzed for both unleaded gasoline and waste oil constituents of concern (COCs); however, since no waste oil COCs were detected, the remainder of samples were only analyzed for unleaded gasoline COCs. The primary area of greatest soil contamination was to the northwest of the former source area UST cavity. BTEX and naphthalene concentrations above the soil to groundwater Medium Specific Concentrations (MSCs) and soil to indoor air screening levels were detected onsite. In addition, benzene concentrations above the Direct Contact MSCs were detected at 2 feet bsg to 4 feet bsg and 8 feet bsg to 10 feet bsg in SB-17, located just northwest of the former UST cavity. Finally, MTBE was detected above the soil to groundwater MSC in one boring (SB-10). The soil boring locations are shown on Figure 5 of the SCR, which is included in Attachment 1 of this RFB. Also, Table 1 from the SCR summarizes the soil analytical results, and is included in Attachment 1 of this RFB.

Groundwater samples were collected on July 17, 2006, March 21, 2007, June 22, 2007, and September 18, 2007 and analyzed for unleaded gasoline COCs. In addition, samples collected on July 26, 2006 were analyzed for waste oil and leaded gasoline COCs. Only the September 2007 monitoring and sampling event included all of the monitoring wells. During the July 2006 sampling event, LPH was detected in MW-1 and MW-3. At least one COC for either unleaded gasoline, waste oil, or leaded gasoline were detected above the groundwater MSCs in both onsite and offsite monitoring wells. MW-1 showed the greatest COC concentrations.

On March 21, 2007, bail down slug tests were completed on MW-2, MW-3, and MW-8, located along the northern border of the Site. The resulting hydraulic conductivity values ranged from 0.00025 to 0.0065 feet/day, with an average of 0.0025 feet/day.

Static groundwater depths in the unconsolidated zone wells ranged from approximately 12 feet bsg in MW-4 to 29 feet bsg in MW-10. Depth to water (DTW) in the weathered bedrock and competent bedrock wells ranged from approximately 20 feet bsg in MW-7 to 47.5 feet bsg in MW-11. Groundwater flow based on the September 2007 monitoring event show a trough like pattern towards MW-9 and MW-15 across the Site. The groundwater elevation maps prepared for the Site consistently show a groundwater flow gradient to the east-southeast from MW-7 towards MW-15, to the west from MW-10 towards MW-8 and MW-9, and to the north-northeast from source area wells towards MW-9. The average hydraulic gradient was calculated to be 0.075 feet/foot using well pairs MW-1 to MW-15 and MW-1 to MW-8. Figure 9 from the SCR, which is included in Attachment 1 of this RFB, shows the groundwater elevation contours and inferred groundwater flow directions based on the initial liquid level measurements at the Site.

Manual LPH recovery activities including LPH hand bailing and absorbent socks were conducted between July 2006 and September 2007. During this period, 0.9 gallons of LPH were

recovered. LPH recovery efforts including absorbent sock placement and exchange are currently conducted on a quarterly basis.

In October 2007, 536 tons of source area soils were excavated and transported offsite for disposal. The excavation depths ranged from 5 to 12 feet bsg. During the excavation, two additional orphan USTs were discovered in the area of the formerly closed in place 1,000 gallon UST. These two USTs were also closed in place during the excavation and soil samples were collected beneath them using hand auguring techniques. In addition, due to obvious contamination in soils in its vicinity, the northern dispenser island located approximately 18 feet north of the closed UST fields was removed and the product lines were capped during the excavation activities. A total of 25 soil samples were collected from the sidewalls, excavated soils, and beneath the closed USTs during the excavation activities. Excavation bottom samples were not collected because the excavation removed all soil to the weathered bedrock interface. Of these, 12 samples were collected during the excavation, and represent soils that were transported offsite. The 13 remaining soil samples were either excavation sidewall samples, a sample beneath the capped product line to the removed dispenser, or samples under the newly closed USTs. The results indicated that 5 of the 13 soil samples exceeded soil to groundwater MSCs and/or Indoor Air Screening Levels for benzene, ethylbenzene, or xylenes. The soil sample results indicate that all soils exceeding the direct contact MSCs were removed. The IRA excavation and soil sampling locations are shown on Figure 6 of the SCR, which is included in Attachment 1 of this RFB. Also, Table 4 from the SCR summarizes the soil analytical results, and is included in Attachment 1 of this RFB. Finally, Figure 7 and Table 5 from the SCR, which are included in Attachment 1 of this RFB, summarize the post-IRA soil quality.

On February 5, 2007, five (5) soil gas sampling points (VP-1 through VP-5) were installed along the station building northern side. After the interim remedial excavation activities, replacement points VP-2b, MW-3b, VP-4b, and VP-5b were installed on November 8, 2007 and VP-1 remained intact. Soil gas samples were collected in the initial points on February 5, 2007 and in the replacement point (plus VP-1) on November 8, 2007. The soil gas sampling results during both sampling events indicated exceedance of the residential soil to indoor air MSCs for benzene, toluene, ethylbenzene, and xylenes. The measured concentrations of MTBE, naphthalene, and cumene did not exceed the MSCs. Figure 7 and Table 6 from the SCR, which is included in Attachment 1 of this RFB, summarize the soil gas sampling point locations and soil gas sampling results from 2007.

In order to evaluate site specific indoor air exposure, the Johnson & Ettinger model was utilized to determine indoor air exposure concentrations and risk at the Site. Based on the site specific soil to indoor air modeling and risk assessment included in the December 2007 SCR, the soil contaminants at the Site do not exceed acceptable carcinogenic risk (10^{-4} to 10^{-6}) and hazard index (1.0) values. Regardless, reduction of the onsite soil adsorbed contaminants would be beneficial for both reducing the indoor air exposure and future vertical migration to groundwater.

During the IRA excavation activities, monitoring wells MW-1, MW-1S, and MW-5 were destroyed.

On May 16, 2008, a Remedial Action Plan (RAP) was submitted to PADEP for review. The RAP is included in Attachment 1 of this RFB. The RAP proposed the use of pathway elimination and a combination of Statewide Health Standards (SHS) and Site Specific Standards (SSS) for closure of the Site. Remedial activities including LPH monitoring and recovery, demonstration of plume stability, and verification of vapor inhalation and groundwater use receptors were proposed as the remedial approach. Additional work including the installation of monitoring/recovery wells in the source area, a vacuum extraction pilot study, and LPH monitoring and recovery are proposed in the RAP. In addition, if significant LPH were encountered, then bi-weekly high vacuum extraction events were proposed. The RAP was approved by PADEP in a letter dated August 18, 2008.

In September 2008, three LPH recovery wells, MW-A, MW-B, and MW-C were installed onsite in the vicinity of the source area UST. Subsequently, in September/October 2008 a three day high vacuum extraction event was completed to investigate the applicability of a DPE remediation system and increased LPH recovery rates.

In April 2010, a Remedial Action Plan Addendum (RAPADD) was submitted to PADEP. The target closure goals documented in the RAPADD included the following: 1) remove LPH to the maximum extent practicable; 2) Verify that there are no receptors exposed to unacceptable levels at or surrounding the Site; and 3) Stabilize the dissolved contaminant plume to prevent down gradient migration. Additional monitoring/recovery wells MW-3R1, MW-3R2, MW-D, and MW-E were installed and documented in the RAPADD. MW-3R1 and MW-3R2 replaced the destroyed MW-3. Additional work completed and documented in the RAPADD includes a dual phase extraction (DPE) pilot study, groundwater monitoring and sampling, LPH recovery efforts, and the recommendation and design of a vacuum enhanced groundwater recovery remediation system. The RAPADD was approved conditionally by PADEP in a letter dated October 12, 2010. The RAPADD and PADEP RAPADD approval letter are included in Attachment 1 of this RFB.

The most recent quarterly groundwater monitoring and sampling event was completed in February 2011. Documentation of the results was reported in a Remedial Action Progress Report (RAPR) dated March 24, 2011. The March 2011 RAPR is included in Attachment 1 of this RFB for reference.

The currently existing monitoring well network includes MW-2, MW-3R1, MW-3R2, MW-4, MW-6, MW-7, MW-8, MW-9, MW-9D, MW-10 through MW-15, MW-A, MW-B, MW-C, MW-D, and MW-E. Wells MW-4, MW-6, MW-7, MW-10, MW-14, and MW-15 are not currently sampled during quarterly events due to their indication of non-detect (ND) or below MSC concentrations historically. Wells that historically have shown LPH include MW-1 (destroyed), MW-A, MW-3 (destroyed) MW-3R1, MW-9, MW-B, and MW-C. LPH has been recovered using hand bailing and absorbent sock techniques since July 2006. Currently, based on the February 2011 monitoring/sampling event, wells MW-3R1, MW-9, MW-A, and MW-C

indicate the presence of LPH. Presently LPH recovery events utilizing absorbent sock are completed quarterly during groundwater monitoring/sampling events.

Based on the recent several quarterly groundwater sampling events, monitoring wells showing COC groundwater concentrations above the applicable MSCs include MW-2, MW-3R1, MW-3R2, MW-8, MW-9, MW-9D, MW-12, MW-13, MW-A, MW-B, MW-C, MW-D, and MW-E. The primary COCs exceeding MSCs are benzene and MTBE, although toluene, ethylbenzene, xylenes, and naphthalene exceed their respective MSCs in several of the source area wells also.

For reference, soil and groundwater analytical results are tabulated and summarized in Figures in the documents included in Attachment 1 of this RFB.

Bidders are directed to the pertinent available documentation (including reports, figures, correspondence and analytical data) that has been provided in Attachment 1 of this RFB 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;
- Conduct quarterly groundwater monitoring and sampling events (including attainment monitoring events required to meet regulatory requirements after remediation);
- Conduct quarterly LPH recovery efforts consisting of the application and change-out of petroleum product absorbent socks in the monitoring wells currently indicating LPH presence.
- Prepare and submit quarterly progress reports to the PADEP;
- Verify and update the existing Sensitive Receptor Survey;
- Secure offsite access on one (1) adjacent roadway property in an effort to install two groundwater monitoring wells;
- Install offsite shallow and deep monitoring wells;
- Update the Site's survey to include the off-site well locations and elevations;

- Utilize the existing maps available in historical files to prepare a current Site map of the important features of the Site (Please note that a digital version of the map is available and as such will be provided to the winning consultant);
- Prepare and submit a Supplemental SCR that documents additional Site Characterization activities;
- Prepare and submit a RAP Addendum Report that appropriately analyzes the previously completed feasibility efforts and details a remedial system strategy and design;
- Implement the selected remedial strategy;
- Conduct post remedial soil gas sampling events;
- Complete fate and transport modeling to assess soil, groundwater, and vapor intrusion media pathways to determine if, and the extent to which, dissolved and vapor phase hydrocarbons have or may be expected to migrate to sensitive receptors both onsite and beyond the property boundary now or in the future;
- Complete a risk assessment evaluation in an effort to appropriately develop Site Specific Standards through pathway elimination;
- Assist the claimant with securing an appropriate deed restriction and environmental covenant for the property;
- Prepare and submit a Remedial Action Completion Report (RACR) proposing appropriate Site Specific Standards; and
- Properly abandon all wells in the monitoring well network and complete the required forms documenting the abandonment activities.

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 complete one groundwater monitoring and sampling event.
- **Optional Cost Adder #2** – Provide a Unit Cost to prepare a RAPR for submittal to the Solicitor, ICF International as designated representative of the USTIF, and PADEP.

- **Optional Cost Adder #3** – Provide a Unit Cost to conduct one month of remediation system operations and maintenance for the proposed remediation system.

In addition to the above *Optional Cost Adders*, the bid response should provide a cost reduction amount that would apply if the proposed deep and shallow monitoring well cluster is not able to be installed due to denial of offsite access or the lack of a feasible location to install the well cluster. The cost reduction detailed in the bid response should take into account the following tasks that will be affected if the proposed additional monitoring wells are not able to be installed:

- The location and elevation survey and drafting addition to the Site Plan would not be required.
- A supplemental SCR would not be required.
- Quarterly groundwater sampling events would not include the proposed additional two (2) monitoring wells. This would affect the cost of sampling (labor, equipment, groundwater disposal, etc.) and laboratory analytical costs.

The bid package should follow the task format outlined below. A cost summary sheet to be attached to your proposal is included as Attachment 2. Proposals should also include a detailed description of the anticipated costs for each task including labor rates, time requirements, equipment costs, and subcontractor costs as broken out in the detailed cost sheet included as Attachment 3. 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 Verification/Update– The existing Sensitive Receptor Survey (SRS) that has been compiled for the Site should be verified and updated. 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. A 1,000-foot radius water usage area should be evaluated as part of the SRS verification and update in an

effort to confirm the area water use. As part of the water usage survey update, the selected consultant should complete the following:

1. Contact the local municipality and water authority to confirm water usage in the area of the Site and any local restrictions on water usage;
2. Review of previously completed sensitive receptor surveys;
3. Canvass of the area; and
4. 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 Supplemental SCR/RAP Addendum to be submitted to PADEP.

Task 1.4 Offsite Access Procurement – In order to facilitate the installation of a deep/shallow well cluster offsite, secure offsite access on one (1) adjacent roadway property. The location of the proposed additional monitoring wells are shown on Figure 2 included in Attachment 1 of this RFB. The work included should cover the necessary time and materials needed to contact the off-site roadway representative, draft an access agreement, and obtain approval with one (1) draft revision to the access agreement. The cost for this task does not include any legal fees, payments, or permitting costs. If necessary, the cost should also cover the necessary time and material needed to provide the PADEP with the information they will require to facilitate access to the roadway.

Task 2.0 Additional Site Characterization and Interim Remedial Activities:

Task 2.1 Shallow Bedrock Monitoring Well Installation – In order to fully characterize the dissolved phase plume and water table surface contours in groundwater and obtain the data necessary to evaluate exposure pathways for the risk assessment, one (1) shallow bedrock monitoring well (MW-16S) is to be installed at the Site. The proposed location of the shallow bedrock monitoring well is provided on the attached Figure 2 in Attachment 1 of this RFB. As part of the installation of the shallow bedrock well, the selected consultant should consider the following:

- All monitoring wells 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 monitoring wells are provided on the attached Figure 2;
- For the shallow bedrock monitoring well, the borehole will be drilled to the completed depth of approximately 50 feet below surface grade (bsg), and a monitoring well will be constructed using approximately 30 feet to 35 feet of two-inch diameter, schedule 40 PVC flush threaded casing and approximately 15 feet to 20 feet of two-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screening. The total depth and screening interval provided are approximated. The

shallow well will be cased for the first 30 to 35 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 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 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;
- All wells are to be installed to the specifications included in the RFB. If installation of the shallow bedrock well in an appropriate location at or near to that shown on the attached Figure 2 is deemed not feasible due to denial of offsite access or utility locations, then a well would not be installed in that location and a credit/cost adjustment would be given to the claimant for that well not being installed. Please indicate in your bid the cost adjustment amount that would be given back to the claimant if a shallow bedrock well is not able to be installed due to denied offsite access or utility location conflict;
- The newly installed monitoring well 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. Groundwater removed from the well during development will need to be containerized and disposed of offsite in a manner consistent with the protocols set forth by the PADEP. Disposal of extracted groundwater should be arranged through a certified waste disposal subcontractor. 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;

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

Task 2.2 Deep Bedrock Monitoring Well Installation – In order to fully characterize the dissolved phase plume and groundwater flow characteristics at the Site in the deeper bedrock aquifer and obtain the data necessary to evaluate exposure pathways for the risk assessment, one (1) deep bedrock monitoring well (MW-16D) is to be installed at the Site. The proposed locations of the bedrock monitoring wells are provided on the attached Figure 2. As part of the installation of the deep bedrock well, the selected consultant should consider the following:

- All monitoring well 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 location of the monitoring wells is provided on the Site Plan (Figure 2) included in Attachment 1 of this RFB.
- For the deep bedrock monitoring well, the borehole will be drilled to the completed depth of approximately 75 feet below surface grade (bsg), and a monitoring well will be constructed using approximately 60 to 65 feet of two-inch diameter, schedule 40 PVC flush threaded casing and approximately 10 to 15 feet of two-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screening.

The total depth and screening interval provided are approximated. The deep well will be cased for the first 60 to 65 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 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 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;
- All wells are to be installed to the specifications included in the RFB. If installation of the shallow bedrock well in an appropriate location at or near to that shown on the attached Figure 2 is deemed not feasible due to denial of offsite access or utility locations, then a well would not be installed in that location and a credit/cost adjustment would be given to the claimant for that well not being installed. Please indicate in your bid the cost adjustment amount that would be given back to the claimant if a deep bedrock well is not able to be installed due to denied offsite access or utility location conflict;
- The newly installed monitoring well 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. Groundwater removed from the well during development will need to be containerized and disposed of offsite in a manner consistent with the protocols set forth by the PADEP. Disposal of extracted groundwater should be arranged through a certified waste disposal subcontractor. 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;

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

Task 2.3 Limited Site Survey and Mapping - A survey of the Site's pertinent features has been completed previously, and an electronic CAD version of the Site plan is available for the selected consultant's use. After installation of the additionally proposed monitoring wells, a survey of the location and elevation of the new monitoring wells should be completed relative to the other monitoring wells and site features by a Pennsylvania-licensed surveyor. The base map for the Site should be updated to include the additionally surveyed groundwater monitoring wells.

Task 2.4 LPH Recovery Activities – LPH recovery should be conducted on a quarterly basis during the routine groundwater monitoring and sampling events. The LPH recovery efforts should include the following:

- Petroleum absorbent socks are to be installed and exchanged on a quarterly basis, during routine quarterly groundwater monitoring and sampling events in the monitoring wells currently indicating the presence of LPH. Recent monitoring and LPH recovery efforts indicate that wells MW-3R1, MW-9, MW-A, and MW-

C currently show LPH presence. MW-3R1 and MW-9 are 2-inch diameter monitoring wells, and MW-A and MW-C are 4-inch diameter monitoring wells.

- The absorbent sock LPH recovery efforts in MW-3R1, MW-A, and MW-C should be conducted only until the full scale remedial system is activated at the Site. Bidders should base the number of LPH recovery events from MW-3R1, MW-A, and MW-C on the anticipated schedule and timing of the full scale remediation system start-up.
- The absorbent sock LPH recovery efforts in MW-9 should be conducted quarterly prior to start-up of the full scale remediation system. After start-up of the remediation system, the sock in MW-9 should be exchanged once per month during routine system operations and maintenance events. Should LPH persist after the remediation system is shut down, then quarterly sock exchanges in MW-9 should be completed until no LPH is present or it can be determined that LPH has been removed to the maximum limit practicable. Bidders should estimate the number of LPH recovery events from MW-9 based on site-specific data and discuss and include the anticipated work in the bid and cost estimates. In an effort to eliminate or minimize the need for change orders on a fixed price contract, please include costs to complete the MW-9 sock replacement and disposal work in your bid response. ICF and PAUSTIF will not entertain any assumptions on the contract with regards to the required number of MW-9 sock exchange events (i.e. Project costs assume that eight (8) quarterly sock replacements will be required). Bidders will be responsible for including costs in their bid response to cover the sock exchange and disposal of all potential waste related to the tasks included in the SOW. Please estimate the number of sock replacements and volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on sock replacement and waste generated as part of activities included under the fixed price contract for this Site will not be paid;
- Used socks containing petroleum product should be stored onsite in an approved sealable and labeled container and then transported and disposed of in a manner consistent with the protocols set forth by the PADEP. Disposal of used absorbent socks 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) container of waste absorbent socks will 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. 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.

Task 2.5 Preparation of a Supplemental SCR - Following the completion of the activities proposed in Task 1.0 and Task 2.0 as well as two (2) groundwater sampling events with the new wells, the selected consultant will prepare a Supplemental SCR for the Site. The information gathered during the aforementioned tasks should be incorporated into a Supplemental SCR that will be submitted to PADEP. Specifically, the report should summarize the results of the recent investigations, a brief summary of the findings of previous investigations, a comprehensive Site history, sensitive receptor information, a summary of previously completed fate and transport evaluations and risk assessments, geologic data, a summary of previously completed aquifer testing, discussion on the completed interim remediation efforts, and a series of summary tables, appendices, and figures illustrating the information provided in the report.

The Report should 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 potentially required future work at the Site in the Supplemental SCR. The report will be appropriately signed and sealed by a licensed Professional Geologist.

Within 120 days of offsite access approval for the proposed monitoring well installations, a draft Supplemental 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, necessary historical documentation, and sensitive receptor update 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 Supplemental 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 winning bidder.

Task 3.0 Remedial System Design, Reporting, and Implementation Activities:

Task 3.1 Remedial System Design - Based on the existing RAPADD (included in Attachment 1 of this RFB), the recommended additional system specifications included in the December 17, 2010 correspondence between PADEP and B&B (included in Attachment 1 of this RFB), site specific data, including subsurface geologic conditions, hydrologic conditions, and contaminant physical properties, design an appropriate system to enable the effective and efficient remediation of the Site to a combination of SSS and SHS standards for soil and groundwater (including pathway elimination). The system should also be designed to remove LPH from the subsurface to the maximum extent

possible. Please note that the remedial approach documented in the RAPADD and updated in the December 17, 2010 PADEP/B&B correspondence has been approved by PADEP. With this said, each bidder should at least consider alternative technologies if their analysis indicates that a different technology is more applicable, cost effective, and efficient. If an alternative remedial technology is recommended, then the bidder should provide costs for a remedial approach consistent with the RAPADD and PADEP/B&B correspondence, and then submit an additional cost alternative and documentation for their recommended alternative remedial approach. Submitted bid packages must include the specific criteria for their basis of the remedial system design, which will primarily be derived from the existing DPE pilot study information. Remedial design criteria should be detailed and should include performance criteria relevant to the technology (i.e. – pumping rates, radius of influence, vacuum recovery rates, measured drawdown, etc.). The bids should include Figures/Maps showing the proposed treatment well network, including vacuum enhanced groundwater extraction wells and shallow SVE only treatment points. Finally, the bids should provide a preliminary list of the primary process equipment to be utilized in the remediation system, as well as the equipment's primary operational parameters.

Task 3.2 Preparation of RAP Addendum Report – Prepare and submit a RAP Addendum Report for PADEP approval that will summarize the results of both historical and newly completed site characterization activities outlined in Section 2.0 herein and provide the final remediation system design for the Site. Provide appropriate analysis and recommendations based on the pilot testing conducted and documented in the July 2010 RAPADD and the recommendations made in the December 17, 2010 PADEP/B&B correspondence. The information gathered during the activities completed as part of Task 1.0 and Task 2.0 will be incorporated into the RAP Addendum Report and is to be taken into consideration when proposing a remedial system design. The RAP Addendum should present a clear discussion to the PADEP as to what testing has been completed, the results (lab and fields) collected, and a structured argument as to why the selected remedial design is appropriate and applicable for this Site. The RAP Addendum Report should also reference the feasibility testing results as well as provide the design and specifications of the remedial strategy to be implemented at the Site. Specifically, the selected consultant should include tables, figures, and attachments that detail the proposed remediation specifics, equipment specifications, operation parameters, and any applicable drawings or figures (i.e. P&IDs, remediation equipment and treatment point location figures, etc.) in the RAP Addendum Report. The RAP Addendum Report should clearly identify the parameters to be tested and the methodology that will be incorporated to determine when active remediation is completed and the system can be permanently shut down.

The format and content of the report shall be generally consistent with 25 PA Code §245.309 and §245.310. The RAP Addendum Report shall be sealed by a Professional Geologist and a Professional Engineer registered in the State of Pennsylvania. A draft copy of the report shall be submitted electronically (in Adobe PDF format) and in hard

copy to the Solicitor and Technical Contact for review / comment prior to finalizing the RAP Addendum Report. Once the selected consultant has addressed comments on the draft, the selected consultant shall finalize and issue the report to the PADEP. The report submission is to be submitted no later than the date specified in the schedule presented by the selected consultant. All AutoCAD maps / plans included in the report (e.g., site plan / base map, groundwater elevation maps, dissolved plume maps, soil contaminant distribution maps, system design maps, etc.) and appendices (e.g., boring logs, tables, disposal documentation, feasibility testing and analysis, lab data, and sensitive receptor information) shall also be submitted electronically on CD to the Solicitor and Technical Contact.

Task 3.3 Implementation of the Remedial Strategy – Upon approval of the final remedial strategy, the selected consultant is to implement the strategy at the Site. In the bid package, firms are to specify how, where, and when the remediation strategy will be implemented. Descriptions and discussion on the execution of the strategy need to be clear and detailed. Specifically, the bid package should include maps, anticipated equipment lists, vendor/subcontractor information and laboratory information. If a bidder is proposing an alternative technology to the VEGE and SVE type system specified in the April 2010 RAPADD and December 2010 PADEP/B&B correspondence, then that bidder needs to provide a cost and description for the VEGE/SVE system as well as an additional cost and description for the proposed alternative technology.

Please Note: The remedial design, RAP Addendum Report preparation, and remedial implementation should proceed regardless of whether offsite access and the proposed additional monitoring well installations detailed in Section 2.0 herein are on schedule. These additional wells are for supplemental information, and it is not anticipated that they will change the remedial strategy. Therefore, it may occur that the RAP Addendum Report and initiation of the remediation system installation is completed prior to the Supplemental SCR.

Task 4.0 Monitoring, Sampling, and Quarterly Reporting:

Task 4.1 Quarterly Groundwater Monitoring and Sampling – For this RFB, please discuss the total number of groundwater monitoring and sampling events that will be needed through closure of this project with PADEP. This includes any events needed to complete the PADEP's attainment monitoring requirements. Please note that PAUSTIF will only pay the winning firm for the actual number of events conducted (i.e. if a firm includes the costs to complete 16 events, but only 13 events are needed and conducted; then the firm will only be paid for the 13 event completed). It is also requested that firms consider proposing a reduction in the sampling frequency of non-key wells at the Site. Please specify in the bid or provide a proposed sampling schedule that details which wells will be sampled during each event and indicate which events are anticipated to be attainment monitoring events.

Based on the available information, the existing monitoring wells at the Site were installed to total depths ranging from approximately 18 feet bsg (MW-4) to 76.5 feet bsg (MW-9D). Depth to groundwater is estimated to be between 11 feet bsg (MW-4) and 41 feet bsg (MW-12). A table summarizing the well constructions, bedrock depths, and typical groundwater depths in each monitoring well is included in Attachment 1 of this RFB. 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 methods;
- 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 from a bailer into laboratory supplied bottleware;
- The management of the groundwater removed from the well during purging shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance and Department directives;
- 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 Petroleum Hydrocarbon Constituents list for unleaded gasoline components using laboratory methods 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; and methyl tert-butyl ether (MTBE));

- 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; and
- 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).

Task 4.2 Preparation of Quarterly Progress Reports – Following the completion of each quarterly sampling event and the receipt of the analytical data, a draft quarterly progress report summarizing the findings during the previous quarter is to be prepared and submitted to the claimant for review. The letter 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 progress of the remediation efforts, and provide additional scheduling details for upcoming events. Once the report is approved by the claimant, the report can be finalized and submitted to the PADEP. The progress reports discussed in this Task are being proposed to meet the PADEP obligation on progress reporting both before and after the Supplemental SCR and RAP Addendum Report approvals. Please note that USTIF will only pay the winning firm for the actual number of reports completed (i.e. if a firm includes the costs to complete five (5) reports, but only four (4) reports are prepared; then the firm will only be paid for the four (4) reports completed).

Task 5.0 Site Closure Activities:

Task 5.1 Soil Gas Sampling - For this RFB, please assume the total number of soil gas sampling events that will be needed is two (2) post remedial events and that samples will be collected from each of the five (5) soil gas sampling points existing at the Site. The two (2) soil gas sampling events should be conducted after final cessation of active remediation in order to provide post remedial soil gas assessment data to potentially be used in fate and transport modeling and risk assessment for demonstration of attainment of site specific standards. Please note that USTIF will only pay the winning firm for the actual number of events conducted (i.e. if a firm includes the costs to complete 2 events, but only 1 event is conducted; then the firm will only be paid for the 1 event completed). The selected consultant should conduct the two (2) soil gas sampling events, the first in winter (after December 21) and the second in spring (prior to March 21) in order to evaluate post remedial soil gas quality in the two worst case seasons for soil gas to indoor air infiltration. As part of the soil gas sampling, the selected consultant should consider the following:

- The locations of the existing soil gas sampling points (VP-1, VP-2b, VP-3b, VP-4b, and VP-5b) are shown on Figure 7 of the SCR, which is included in Attachment 1 of this RFB.
- The vapor intrusion sampling 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.
- Soil gas 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 (benzene, toluene, ethylbenzene, xylenes, cumene, naphthalene, and MTBE).
- 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).

Task 5.2 Fate and Transport Modeling – Post remedial 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 and in order to support pathway elimination allow the completion of a representative risk assessment for the Site. 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 modeling for the Site, including both dissolved phase groundwater transport and vapor phase transport to potential inhalation receptors. Please specify which modeling methods or softwares will be used to predict fate and transport of the constituents of concern exceeding the PADEP statewide health standards in soil and groundwater.

Task 5.3 Risk Assessment – A post remedial 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-specific standards and pathway elimination, and guidance on site-specific human health assessment procedures. This guidance should be followed to conduct a risk assessment and to demonstrate compliance with and attainment of the applicable carcinogenic risk and hazard quotient/index values deemed acceptable by PADEP. Information/data generated during the remedial activities conducted at the site should be incorporated into this task.

Task 5.4 Preparation of RACR – Prepare and submit a RACR for the PADEP approval that will appropriately present an evaluation of current Site conditions and present significant conclusions and request closure and a release from liability from the PADEP.

The information gathered during the activities completed as part of Task 1.0, Task 2.0, Task 3.0, Task 4.0, and 5.0 should be incorporated into a comprehensive RACR that will be submitted to the PADEP and will facilitate the objective to complete regulatory requirements governing the RACR 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, geologic data, results and analysis of historical aquifer testing, discussion on the completed remediation efforts, summary of the predictive modeling efforts completed, risk assessments, 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 Remedial Action Completion Report. The RACR shall be sealed by a Professional Geologist registered in the State of Pennsylvania. A draft RACR shall be submitted electronically (in Adobe PDF format) and in hard copy to Solicitor and Technical Contact for review / comment prior to finalizing the RACR. Once the selected consultant has addressed comments on the draft, the selected consultant shall finalize and issue the report to the PADEP. The report submission is to be submitted no later than the date specified in the schedule presented by the selected consultant. 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, disposal documentation, fate and transport modeling, risk assessment and sensitive receptor information) shall also be submitted electronically on CD 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.

Please assume for bidding purposes that an electronic version of the Site Plan AutoCAD file will be provided for the Site to the selected consultant.

Task 5.5 Uniform Environmental Covenant – The selected consultant would be assisting the solicitor with the preparation of the Site Uniform Environmental Covenant language by customizing the PADEP provided examples to the claimant's specific needs. For bidding purposes, please assume that the claimant will be responsible for the final review, submission, and recording by an appropriate legal professional.

For the purposes of this bid, please assume that no additional post remedial care plan(s) will be required to facilitate closure of the Site.

Task 5.6 Site Restoration / Well Abandonment – Following confirmation that cessation of the active remediation system is warranted, the remediation system should be removed, and the site restored to as close a condition as prior to the system installation. The selected consultant will abandon all of the monitoring wells in accordance with

Pennsylvania Act 610 and the Groundwater Monitoring Guidance Manual dated February 29, 1996. Upon completion, a well abandonment report will be prepared and submitted to the DCNR on behalf of the claimant. Bidders should specify in the bid packages how the wells will be abandoned and the site restoration activities included in the specified costs.

Optional Cost Adders:

Task 1.0 through Task 5.0 above represents the base Scope of Work for this RFB solicitation. These tasks have been specifically developed in an effort to complete supplemental site characterization investigations, facilitate the design, installation, and operation of a remediation system, complete post remediation monitoring and sampling, and obtain final closure for the Site. 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 complete an additional groundwater monitoring and sampling event. The scope of work for this cost adder should follow Task 4.1. The cost provided should be to complete only one (1) groundwater monitoring and sampling event including those wells that are selected by the bidder to be sampled during the routine quarterly sampling events. This cost should include the sampling of the two (2) proposed additional monitoring wells. Please also provide a cost reduction if the two (2) proposed monitoring wells are not able to be installed, and would therefore, not be sampled.
- **Optional Cost Adder #2** – Provide a Unit Cost to Prepare a RAPR for submittal to the PADEP. The RAPR 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 SWHS, 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.
- **Optional Cost Adder #3** – Provide a Unit Cost to conduct one month of remediation system operations and maintenance for the proposed remediation system. This cost should include all labor costs, utilities costs, routine equipment upkeep costs, sampling/analysis costs, and monthly reporting costs necessary to operate and maintain permits for the remedial system.

SCHEDULING

As part of this RFB, the selected consultant shall be prepared to initiate offsite access procurement for the offsite well installations within two weeks of the project award date and submit the draft RAP Addendum to the Solicitor, ICF / USTIF and the Technical Contact within 60 days of the project award date. In addition, a detailed schedule indicating when specific activities and reports (well installation activities, remediation system design, report submittal, groundwater monitoring and sampling, and remediation system start-up and operation duration, etc.) will be completed shall 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 six (6) 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 Southwest 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 Southwest 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?
- Has your company and/or the proposed Pennsylvania licensed P.G. or P.E. previously completed remediation system design and employed remediation technologies similar to what is proposed in your bid package? Please provide a detailed response and case studies to support the previous experience.

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. A copy of the proposed fixed price contract is included in Attachment 4.

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 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 work plan 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 spreadsheets (Attachment 2 and Attachment 3);
- 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 RACR. 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;
- Clear definition (including specific criteria and values) of the performance criteria that will be used to evaluate when active remediation will be ceased and the demonstration of attainment phase will be initiated;
- Complete the provided Milestone Payment Schedules included as Exhibit B and Exhibit C in the contract included as Attachment 4; and
- Identify the names of the proposed project team for the key project staff, including the proposed Professional Geologist and Professional Engineer of Record who will be responsible for overseeing the work and applying a professional geologist's seal and professional engineer's seal to the project deliverables.

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 both the cost summary sheet included as Attachment 2, and the detailed cost sheet included as Attachment 3. An electronic version of the cost spreadsheets included in Attachment 2 and Attachment 3 (in Microsoft Excel Format) have been provided.

In addition to the cost spreadsheets, each bidder should modify the Milestone / Proposed Payment Schedules included as Exhibit B and Exhibit C of the fixed price contract in Attachment 4 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 4). 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.

Please bid the scope of work as provided in this 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 be 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. In addition for your reference, a copy of the

PAUSTIF Competitive Bidding Fact Sheet is provided in Attachment 5. The aforementioned guidance document can provide you with additional information of the bidding process.

MANDATORY SITE VISIT

On Friday, August 12, 2011, 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: Calfo's Service Station Bid Walk Claim No. 05-0102(S). **Any firm that does not attend the August 12, 2011 mandatory site visit will not be eligible to submit a bid response.**

ATTACHMENTS

- Attachment 1 – Tables, Figures, Historical Documentation and Correspondence
- Attachment 2 – Cost Summary Sheet
- Attachment 3 – Detailed Cost Sheet
- Attachment 4 – Fixed Price Contract with Milestone / Proposed Payment Schedules
- Attachment 5 – PAUSTIF Competitive Bidding Fact Sheet