

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

Chrome Palace
3695 Mountain Road
Hamburg, PA 19526
PADEP FACILITY ID #06-34915
PAUSTIF CLAIM #2009-0044(M)

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 a Site Characterization Report (SCR) and a remedial alternatives evaluation for the Chrome Palace Facility (Site). A petroleum release to both soil and groundwater has been confirmed at the Site and a SCR is still needed to meet the Pennsylvania Department of Environmental Protection (PADEP) characterization requirements. The Solicitor has an open claim (Claim #2009-0044(F)) with the PAUSTIF and the work outlined in this RFB will be completed under this aforementioned claim. The claim is subject to a 65% proration and as such 65% of the reimbursement of Solicitor-approved reasonable, necessary and appropriate costs (within claim limits) for the work described in this RFB will be provided by PAUSTIF with the remaining 35% to be paid by the solicitor

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 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.

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 July 8, 2010.** In addition, the outside of the package must be clearly labeled with "Bid – Claim 2009-0044(M)". 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.

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

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Technical Contact

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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: Chrome Palace RFB Questions Claim No. 2009-0044(M). 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

Chrome Palace
3695 Mountain Road
Hamburg, PA 19526
Upper Bern Township, Berks County

Site Location and Operation Information

The Site is an active retail gasoline facility owned by Jasby Management Inc. and located on Mountain Road between Industrial Drive and Motel Drive in Upper Bern Township, Pennsylvania. As a retail fueling station, unleaded gasoline and diesel dispensing equipment and systems are located at the Site as well as a one (1) story building. The gasoline underground storage tank (UST) field is located near the northwest corner of the Site building and contains two (2) USTs. The diesel UST field is located to the east of the northernmost part of the Site building contains one (1) 12,000 diesel gallon UST. The surrounding properties are a mix of residential and commercial properties. The Site and surrounding properties are provided with water from private potable wells. A Site Location Map and a current Site Plan are provided as Figures 1 and 2, respectively. Please note that a new access road, retention basin, and surface coverings will be constructed at the Site sometime around July 2010.

Site Background Information

On January 7, 2003, an UST contractor observed stained soil at the dispensers and tank tops during unleaded gasoline UST system modification work. Consequently, approximately 80 tons of impacted soil was excavated and stockpiled. According to a site worker, a truck driver caused a surface spill when the automatic shut off did not function on a dispenser, and the driver had left the area. Soil samples were collected from the product line connections to the USTs, and under dispensers that were removed and product piping. Samples results indicated concentrations of benzene, toluene, and naphthalene above the Statewide Health Standards (SHSs). The exact locations of the samples cannot be determined based on available information.

On April 1, 2009, a UST contractor removed three (3) unleaded gasoline USTs and sufficient impacted soil to install two (2) new USTs in the same area. Information from the aforementioned event indicated that the removed USTs had extensive corrosion and pitting present at the time of removal. Petroleum odors and staining were noted on the sidewalls of the UST excavation and a sheen was detected on groundwater present in the UST excavation. Records indicate that approximately 600 tons of impacted soils were excavated and stockpiled at the Site. Soil and groundwater samples collected during UST removal activities indicated concentrations of unleaded gasoline target compounds above their respective SHSs. Soil sample locations are shown on Figure 3. Soil and groundwater sampling results are provided in Tables 1 and 2.

Information obtained from the PADEP indicates that an adjacent facility has an open environmental case. The aforementioned facility was previously known as "Kauffman's Mini Mart", but currently operates as a "Love's Travel Stop" facility. Available information indicates that an unleaded gasoline and kerosene release was documented at the aforementioned facility in 1998 and a heating oil release in 2006. Both dissolved phase and free phase contamination was noted in the groundwater and was consequently remediated with the use of a groundwater pump and treat system. Information available in the PADEP files indicates that the general groundwater flow direction beneath the Love's Travel Stop is to the east. Impact to groundwater is present on the Love's Travel Stop facility and potentially could have migrated onto the Site. In addition, the potable well located at the Site was sampled by the consultant for the upgradient adjacent Kauffman's Mini Mart / Love's Travel Stop facility on July 2, 2009. The sample

reportedly could not be analyzed by the laboratory due to a problem with the sample preservative and as such the potable well was re-sampled on August 6, 2009. Results from the second sampling event indicated that none of the PADEP unleaded gasoline target compounds were detected with the exception of estimated trace "J" values of toluene and total xylenes.

On January 28, 2010, B&B collected a sample from the onsite potable well and a total of five (5) surface water samples from the on-site stream. Analytical data from the event indicates that none of the samples collected had unleaded gasoline target compounds above their respective SHSs. A copy of the analytical package is provided in Attachment 1.

Bidders are directed to the pertinent available documentation (including reports, figures, correspondence and analytical data) that has been provided in Attachment 1 (on the included CD) 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;
- Complete a site survey, map the important features of the Site and evaluate groundwater flow (Please note that a digital version of the map is not available and as such will not be provided to the winning consultant);
- Conduct a soil boring investigation;
- Install bedrock and overburden monitoring wells;
- Install stream gauges;
- Complete aquifer testing on the monitoring well network;
- Conduct quarterly groundwater monitoring and 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 phase hydrocarbons have or may be expected to migrate beyond the property boundary now or in the future;
- Prepare and submit a Site Characterization Report (SCR);

- 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 complete an additional groundwater monitoring and sampling event.
- **Optional Cost Adder #2** – Provide a Unit Cost to prepare a Progress Report for submittal to the Solicitor, ICF International as designated representative of the USTIF, and potentially PADEP.
- **Optional Cost Adder #3** – 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 #4** – Provide a Unit Cost to install one (1) overburden groundwater monitoring well. The scope of work for this cost adder should follow Task 2.3 construction guidelines, but would be completed during a separate event.
- **Optional Cost Adder #5** – Provide a Unit Cost to install one (1) bedrock groundwater monitoring well. The scope of work for this cost adder should follow Task 2.2 construction guidelines, but would be completed during a separate event.

In addition to the above discussed **Optional Cost Adders**, the bid response needs to provide a cost adjustment amount that would be given back to the claimant if a shallow well is not able to be installed due to shallow bedrock and/or due to a conflict with the redevelopment activities that cannot be resolved. The bid response should also specify a cost adjustment amount that would be given back to the claimant if a bedrock well is not able to be installed due to a conflict with the redevelopment activities that cannot be resolved.

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, and

equipment 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 – 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.

Task 2.0 Additional Site Characterization and Interim Remedial Activities:

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. Specifically, the activities include the completion of 16 additional soil borings around the active UST systems using direct push sampling approach (e.g., Geoprobe®). 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 2) included in Attachment 1.
- Soil borings shall be advanced to groundwater, bedrock, or refusal, whichever is encountered first (total boring depth is anticipated to be 15 feet or less);
- Soil samples shall be collected continuously in four (4) foot intervals 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;
- A total of two (2) soil samples from each of the 16 soil borings will be collected and submitted to an accredited laboratory. The soil interval exhibiting the highest PID reading in each borehole will be collected for submittal to a laboratory for analysis. An additional soil sample will be collected at the bedrock interface or just above groundwater (if encountered) in an effort to delineate the soil sample with the highest PID reading. If a boring exhibits no PID readings, then a soil sample will be collected from approximately four (4) feet below grade and then again just above groundwater or at refusal (if groundwater is not encountered);
- A total of 32 soil samples (two (2) soil samples per boring) shall be collected as part of this investigation. Soil samples shall be collected using Encore Samplers (or equivalent) and field-preserved in laboratory-provided glassware with the appropriate preservatives (e.g., methanol or sodium bisulfate) provided by the laboratory in general accordance with USEPA Method 5035 and the PADEP guidance;
- In addition, one (1) duplicate sample and one (1) equipment blank sample will be collected and submitted per day of sampling;
- 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, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene using laboratory EPA method 8260B. Additionally, the eight (8) soil boring locations located around the diesel UST and dispensers (SB-1 through SB-8) shall be analyzed for fluorene and phenanthrene using laboratory EPA method 8270C in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2. One (1) soil sample should also be analyzed for fraction of organic carbon and porosity to facilitate modeling efforts;

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

Task 2.2 Bedrock Monitoring Well Installation – In order to fully characterize the dissolved phase plume in the first bedrock aquifer and obtain the data necessary to evaluate exposure pathways for the risk assessment, a total of six (6) bedrock monitoring wells (MW-1 through MW-6) are 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 bedrock wells, 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.
- The six (6) bedrock wells will be advanced to a total estimated depth of 35 feet below grade (ftbg) with approximately 20 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 upper 20 feet will be cased and the annular space will be sealed in an effort to prevent possible vertical movement through the borehole from the shallow to deeper water bearing zones. At a minimum, the casing for each bedrock well must penetrate competent bedrock five (5) feet. Please note that 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 sand filter pack of appropriate grain size shall be placed in the annulus from the bottom of the borehole to not more than 0.5 feet above the screened interval. Hydrated bentonite or bentonite slurry shall be used to seal the annulus above the filter pack. A cement/bentonite grout shall be placed to seal up to grade.
- 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 the RFB indicates that the well should be a bedrock well then it would only be installed as a bedrock well. If installation of a bedrock well in a location is deemed not feasible due to a conflict with the redevelopment activities that cannot be resolved, 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 bedrock well is not able to be installed due to the location conflict;
- 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. 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 Overburden Monitoring Well Installation – In order to fully characterize the dissolved phase plume in the overburden aquifer and obtain the data necessary to evaluate exposure pathways for the risk assessment, a total of eight (8) overburden monitoring wells (MW-7 through MW-14) are to be installed at the Site. The proposed locations of the overburden monitoring wells are provided on the attached Figure 2. As part of the installation of the overburden wells, 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 Site Plan;
- For the eight (8) overburden monitoring wells, the borehole will be drilled to the completed depth of approximately 15 ftbg, and a monitoring well will be constructed using approximately two (2) feet of four-inch diameter, schedule 40 PVC flush threaded casing and approximately 13 feet of four-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screening. The total depth and screening interval provided are approximated. The selected consultant will install the shallow wells to a depth of no more than five (5) feet into competent bedrock with the maximum well depth not to exceed 20 feet. The shallow well will be cased for the first 1.5 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 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 the RFB indicates that the well should be overburden then it would only be installed as overburden. If installation of an overburden well in a location is deemed not feasible by a P.G. due to the shallow presence of competent bedrock after an appropriate attempt has been documented and logged or due to a conflict with the redevelopment activities that cannot be resolved, 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 well is not able to be installed due to shallow bedrock or location conflict;
- 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. 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 2.4 Installation of Stream Gauges – Based on the proximity of the stream, a total of five (5) stream gauges are to be installed at the stream sampling locations (S-1 through S-5) noted on the attached Figure 2. The five (5) aforementioned stream gauges should be used to mark the stream sampling locations as well as aid in the determination of the shallow groundwater flow pattern at the Site. The stream gauges should be appropriately installed, surveyed, tied into the monitoring well network, and the elevation of the stream calculated using the data from the survey and field data from the groundwater monitoring events discussed in Task 3.0.

Task 2.5 Site Survey – Following the installation of the proposed monitoring wells (bedrock and overburden), a professional survey of the Site by a Pennsylvania-licensed surveyor including all current site features (e.g., buildings, property boundaries, monitoring wells, etc.) shall be completed. All monitoring wells, borings, site supply well location, the Site building, property boundaries, important Site features, and the proposed stream gauges are to be surveyed with the purpose of placing their horizontal coordinates on a scaled site map. In addition, the vertical coordinates of the new monitoring well top of casings and surface grade are to be surveyed as well as the five (5) stream gauges proposed in Task 2.4. 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 existing 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 additional 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 in both the overburden and bedrock aquifers.

Task 2.6 Aquifer testing – Slug tests, Step test and Pump test –

Task 2.6.1 Slug Tests – Rising head slug testing will be conducted on two (2) of the overburden wells and two (2) of the bedrock 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 bedrock 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.

Task 2.6.2 Step Test – The overburden 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.

Task 2.6.3 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 overburden 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. Groundwater extracted during the step test and pump test 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. 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.

Task 3.0 Groundwater Monitoring and Sampling:

For this RFB, please assume the total number of groundwater monitoring and sampling events that will be needed is two (2) events. 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 events are conducted; then the firm will only be paid for the 1 events completed). During each of the two (2) groundwater monitoring and sampling events, the selected bidder shall also conduct the sampling of the Site potable well and the five (5) proposed stream sampling locations shown on Figure 2. Please note that 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 stream gauges 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 from a bailer into laboratory supplied bottleware;
- All liquids generated during the sampling events 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. 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 four (4) drums of groundwater will require disposal after the completion of the groundwater sampling event). 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;
- 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 and diesel components using laboratory methods 8260B and 8270C 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-trimethylbenzene; 1,3,5-trimethylbenzene; fluorene; and phenanthrene. In addition, the Site potable well should be sampled for the above compounds via laboratory method 524.2.
- 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).

Task 4.0 Fate and Transport Modeling and Site Characterization Report:

Task 4.1 Fate and Transport Modeling – 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 modeling 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.

Task 4.2 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 two (2) groundwater sampling events from Task 3.0 and the Fate and Transport Modeling noted in Task 4.1, 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, discussion on the completed remediation efforts, summary of the predictive modeling efforts 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 120 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 winning bidder.

Task 5.0 Risk Assessment and Feasible Remedial Alternatives Analysis:

Task 5.1 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 5.2 – 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 5.3 – 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 baseline risk assessment 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. Information/data generated during the interim remedial activities conducted at the Site should be incorporated into this task.

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 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 5.0 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 complete an additional groundwater monitoring and sampling event. The scope of work for this cost adder should follow Task 3.0. The cost provided should be to complete only one (1) event with all wells and surface water sampling points in the expanded network being sampled.
- **Optional Cost Adder #2** – 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 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. The progress reports discussed are being proposed to meet the PADEP obligation on progress reporting before RAP approval.
- **Optional Cost Adder #3** – 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 #4** – Provide a Unit Cost to install one (1) overburden groundwater monitoring well. The scope of work for this cost adder should follow Task 2.3 construction guidelines, but would be completed during a separate event.
- **Optional Cost Adder #5** – Provide a Unit Cost to install one (1) bedrock groundwater monitoring well. The scope of work for this cost adder should follow Task 2.2 construction guidelines, but would be completed during a separate event.

SCHEDULING

As part of this RFB, the selected consultant shall be prepared to install the new monitoring wells at the Site within 30 days of the project award date and submit the draft SCR to the Solicitor, ICF / USTIF and the Technical Contact within 120 days of the project award date. 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.

Please note that a new access road, retention basin, and surface coverings will be constructed at the Site sometime around July 2010. Some of the proposed monitoring wells are located near or in areas that will be impacted by the construction activities. If the Site construction activities are postponed or not completed before the aforementioned monitoring well install 30 day deadline, then the fixed price contract schedule will be modified accordingly. The selected consultant will coordinate their work and schedule with the claimant so that the well installation activities take place after the Site construction activities are completed.

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 Southcentral 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 Southcentral 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. 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 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 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 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 4; 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.

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.

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 June 10, 2010, the Technical Contact (or designee) will be at the site at 10:30 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: Chrome Palace RFB Claim No 2009-0044(M). **Any firm that does not attend the June 10, 2010 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 – USTIF Competitive Bidding Fact Sheet