

**COMPETITIVE BID SOLICITATION FOR
THE COMPLETION OF A SITE CHARACTERIZATION REPORT**

Corner Amoco
125 Gravel Pike
Rahns, PA 19426
PADEP FACILITY ID #46-45682
PAUSTIF CLAIM #2006-0012(S)

ICF International (ICF), on behalf of the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF) and the claimant for the above referenced claim are 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) for the Corner Amoco Facility (Site) in Rahns, Pennsylvania. A petroleum release to 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 #2006-0012(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 some site characterization activities have previously been completed, the data has been determined to be incomplete. Following the completion of some site characterization activities, the previous consultant submitted a Site Characterization Report (SCR) for the Site in June 2006. The aforementioned SCR was denied by PADEP in a correspondence dated November 6, 2006. The SCR was deemed by PADEP as incomplete and further characterization activities were needed in order to complete site characterization. Specifically, this RFB seeks competitive bids from qualified consultants to complete the additional characterization activities, prepare an appropriate SCR, and facilitate progress towards site closure in a timely, efficient, and cost effective manner.

This RFB includes four (4) major components with subtasks presented in an outline format for cost analysis and implementation. The fixed costs proposed by the 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 any identified out of scope activities must be pre-approved to be eligible for payment. Any costs associated with deviations from the scope that do not receive prior approval from the Solicitor and PAUSTIF, or its representatives, will not be reimbursed.

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 June 14, 2010. In addition, the outside of the package must be clearly labeled with “Bid – Claim 2006-0012(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.**

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, via email.

ICF 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: Corner Amoco RFB Questions Claim No. 2006-0012(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.

SITE LOCATION, OPERATION, AND BACKGROUND INFORMATION

Site Address

Corner Amoco
125 Gravel Pike
Rahns, PA 19426
Upper Perkiomen Township, Montgomery County

Site Location and Operation Information

The Site is an active retail gasoline facility owned by Allied Petroleum Ventures of PA, Inc. and located at the intersection of Route 29 (Gravel Pike) and Route 113 in Rahns, Pennsylvania. 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 underground storage tank (UST) field is located near the northeast corner of the Site and contains two (2) 12,000 gallon unleaded gasoline USTs. The surrounding properties are a mix of industrial, residential and commercial properties. Available information indicates that the Site and surrounding properties are provided with potable water from public water sources.

Site Background Information

In August 2005, the PADEP collected groundwater samples from the tankfield monitoring wells at the Site as a result of water being detected in a dispenser sump during a routine operations inspection. Specifically, information from the PADEP inspection indicated that a sump sensor had been triggered by the presence of water in a dispenser sump. Results from the groundwater sampling of the two (2) tankfield wells indicated the presence of MTBE above the applicable Statewide Health Standard (SWHS) in one (1) groundwater sample.

On January 12, 2006, a Notification of Reportable Release (NORR) was submitted. The NORR indicates that a release of unleaded gasoline to groundwater was confirmed based on tank observation well sampling results.

In February 2006, the previous consultant advanced a total of seven (7) soil borings (SB-01 through SB-07) at the Site via Geoprobe technology to depths ranging from 12 feet below grade (ftbg) to 20 ftbg. The aforementioned borings were continuously logged; field screened for volatile organic carbons with a Photo-ionization detector (PID); and a soil sample was collected from each boring and submitted to a laboratory for analysis. Analytical results from the soil boring event indicate that all seven (7) samples were below the applicable SWHS for all constituents included on the PADEP's unleaded and leaded gasoline short lists available at the time of the event. Boring logs from the February 2006 soil boring event were included in the SCR dated June 21, 2006.

In March 2006, the previous consultant installed a total of four (4) monitoring wells (MW-1 through MW-4) via air rotary at the Site. The monitoring wells were installed to depths ranging from 15 ftbg to 40 ftbg. A summary of the monitoring well construction details are provided below:

Monitoring Well	Total Depth (feet)	Depth to Bedrock (ftbg)	Casing Interval (ftbg)	Screening Interval (ftbg)
MW-1	25	15	0 - 10	10-25
MW-2	40	18	0 - 25	25 - 40
MW-3	15	Not Detected	0 - 1	1 - 15
MW-4	26	16	0 - 11	11-26

Additional construction details on the four (4) wells installed in March 2006 are included on the well construction logs provided in the SCR dated June 21, 2006. One (1) additional well (MW-5) was installed at the Site some point in time prior to the onset of this release and site characterization investigation. Construction specifics are not known for the well except that it is more than 100 feet deep and that it is cased with six (6) inch steel casing.

Following well installation activities, the previous consultant collected water level readings and groundwater samples from the monitoring well network on March 15, 2006 and then again on March 29, 2006. Analytical results from the two (2) sampling events indicated that all samples collected were below the applicable SWHS for all constituents of concern (COCs) with the exception of MTBE in monitoring wells MW-3 and MW-4. The highest MTBE concentration detected during the first two (2) groundwater sampling events was 300 ug/L of MTBE in monitoring well MW-4. Results from the event were included in the SCR dated June 21, 2006 and are summarized in the attached table.

In June 2006, the previous consultant submitted a SCR for the Site summarizing all of the characterization activities completed at the Site since the release was discovered in August 2005.

The aforementioned SCR was denied by the PADEP in a correspondence dated November 6, 2006. The SCR was disapproved by the PADEP as further characterization activities were needed in order to complete site characterization. Specifically, the PADEP indicated the following:

“The Department has determined that further site characterization is warranted. The extent of off-site contamination in soil and groundwater has not been determined. Please perform a survey of adjacent homes to determine if any have private supply wells, and if so, please sample and analyze the adjacent private wells for the constituents of leaded and unleaded gasoline. Pathways for contaminant migration, such as off-site underground utility lines, property boundary lines, a scale, the location of the adjacent houses (mentioned in the text), and a correct “North arrow”.

Following receipt of the PADEP denial letter, the previous consultant pursued access to an off-site property and installed a total of three (3) off-site monitoring wells (monitoring wells MW-6

through MW-8). The three (3) wells were installed on July 25, 2007 to a depth of approximately 25 ftbg. In a letter to Allied, the previous consultant indicated that groundwater was not encountered during the well installation activities; however based on a review of available information on the local geology, groundwater should have been encountered within 25 feet of the ground surface. Following installation of the wells, representatives from the drilling firms returned to the Site on July 28, 2007 to determine if groundwater had intercepted the wells. No groundwater was detected in the off-site wells. In late August of 2007, the previous consultant returned to the Site to conduct an additional groundwater monitoring and sampling event. Onsite groundwater measurements indicate that groundwater was present at depths ranging from 6.75 ftbg to 16.29 ftbg. Groundwater was not detected in the three (3) off-site monitoring wells during the August 2007 monitoring and sampling event.

Based on the results of the July 2007 and August 2007 field activities, the previous consultant contacted the industrial facility immediately adjacent to the off-site property where the off-site monitoring wells (MW-6 through MW-8) were installed. Subsequent conversations with the aforementioned industrial facility (Rahn's Construction Property (Rahns)) revealed that the Rahns property utilizes an onsite industrial pumping well(s) which withdrawals approximately 15,000 gallons of groundwater per day. The pumping well(s) were not listed on available PADEP databases or Montgomery County Department of Health records and as such not discovered during initial sensitive receptor survey activities.

It is B&B's understanding that the previous consultant may have conducted additional investigations at the Site and at off-site properties related to the Rahns pumping well(s); however the data and information has not been provided by the previous consultant.

In August 2009, B&B contacted Rahns to discuss the status and specifics on the industrial well(s) at the Rahns property. Following discussions with several Rahns employees, B&B was contacted by a representative from the H&K Group (H&K), the current owners of Rahns, to discuss the industrial well(s) at the property. In an effort to assist B&B with the Site, H&K provided the following information via email on September 17, 2009:

"The Rahns Concrete Batch Plant located at the intersection of Route 29 and Route 113 (across Route 29 from the subject Amoco Gas Station) utilizes only one water supply well. This well has been in use for some time and as such no well construction logs could be located. However, we do know that well has an adequate yield to sustain the production of concrete at the site. Based upon our annual concrete production and approximate water consumption per cubic yard of concrete, we estimate that approximately 3.8 million gallons were consumed during 2008. Note, the well is used only for concrete production. The offices, with associated sanitary uses, are serviced by public water.

The water consumption is dependent upon concrete demand, with demand being highest during the spring, summer and fall seasons during the typical business hours of 6:00 AM to 5:00 PM, Monday through Friday. Occasionally we do operate during evening (off-

peak) hours and on weekends. In 2008, we estimated our maximum peak monthly usage occurred in August at approximately 439,000 gallons.”

On September 22, 2009, B&B conducted a field visit to the Site. During the field visit, B&B conducted groundwater monitoring and sampling activities, determined the location and status of the off-site monitoring wells, and spoke with a representative of the off-site property. Each of the aforementioned activities completed during September 22, 2009 Site visit are discussed in detail below:

1. Groundwater Monitoring and Sampling Data Summary –

Monitoring & Sampling Date:	September 22, 2009.
Number of Wells Monitored:	5 Wells (MW-1 through MW-5).
Depth to Groundwater:	3.29 feet (MW-3) to 14.51 feet (MW-5).
Free-Product Thickness:	None.
Number of Wells Sampled:	5 Wells (MW-1 through MW-5).
Benzene Concentrations:	All wells sampled were Not Detected (ND).
Toluene Concentrations:	All wells sampled were ND.
Ethylbenzene Concentrations:	All wells sampled were ND.
Total Xylenes Concentrations:	All wells sampled were ND.
MTBE Concentrations:	Highest concentration detected was 10.9 µg/l (MW-4). All other wells sampled were below the applicable PADEP SWHS.

Methodologies:	The samples were analyzed via Method 8260B by Analytical Laboratory Services, Inc. of Middletown, Pennsylvania. All monitoring and sampling activities were conducted in accordance with generally accepted practices as outlined in the final version of the PADEP Groundwater Monitoring Guidance Manual.
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The data is summarized in the groundwater tables included with this RFB in Attachment 1.

2. Location and Status of Off-Site Monitoring Wells –

During the September 22, 2009 Site Visit, a B&B representative attempted to locate the three (3) monitoring wells (MW-6 through MW-8) installed in July 2007 on the off-site property. B&B was unable to locate any intact monitoring wells at the off-site property. However, B&B did document the presence of three (3) appropriately sized square asphalt patches in the parking area of the off-site property. The off-site property has two (2) commercial buildings and a common parking area.

3. Discussion with Off-Site Property Representatives –

During the September 22, 2009 Site Visit, a B&B representative spoke with a representative of the off-site property regarding the off-site monitoring wells installed in July 2007. The representative indicated that the previous consultant had indicated that sampling results from the wells were clean and as a result the wells were being abandoned. The representative indicated that there were indeed three (3) wells drilled at the property. Later, the property owner spoke with the B&B representative and indicated that she owns both buildings and the parking lot. She confirmed that at least two (2) monitoring wells were installed at the property but was unsure of the total number of wells installed on her property.

Immediately following the September 22, 2009 visit at the Site, B&B contacted ICF and informed them of the information obtained. Subsequently, ICF contacted the previous consultant and requested clarification of activities completed. In addition, ICF requested copies of any analytical data from samples collected at any of the off-site properties, including Rahns production well (which may have been sampled by the previous consultant) and/or off-site monitoring wells MW-6 through MW-8). To date, the previous consultant has not provided any additional information to ICF, PAUSTIF, or B&B and as such the information was not included with this RFB.

On January 11, 2010, B&B contact the PADEP case manager assigned to the Site to discuss the recent results and investigations, the significant volume of water being pumped from the Rahns production well, and to discuss the proposed scope of work. The PADEP case manager was satisfied with the activities planned and indicated that if the analytical data from the two (2) proposed rounds of groundwater sampling were below the applicable SWHS, a Remedial Action Completion Report (RACR) should be submitted. The PADEP case manager requested that the next major report provide the available information on the Rahns production well in addition to discussing the influence of the Rahns well on the water bearing zone(s) at the Site.

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

PROPOSED SCOPE OF WORK

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

- Prepare the appropriate project guidance documents;
- Complete a full and updated Sensitive Receptor Survey;

- Abandon improperly constructed monitoring wells;
- Install additional bedrock and overburden monitoring wells;
- Complete a site survey, map the important features of the Site and evaluate groundwater flow;
- Complete aquifer testing on the monitoring well network;
- Conduct groundwater monitoring and sampling events;
- Complete a transducer survey on the onsite and off-site monitoring wells; and
- Prepare and submit a Site Characterization Report.

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 prepare a combined SCR/RACR for submittal to the PADEP instead of a SCR. The RACR portion of the report would request closure under the applicable SWHS. The costs included in this optional cost adder would just be the additional costs needed to write the SCR/RACR above and beyond the costs included in the bid response to write the SCR.
- ***Optional Cost Adder #4*** – Provide a Unit Cost to complete fate and transport modeling and a risk assessment for the Site consistent with the Act 2 guidance documents and summarize the findings in the SCR.
- ***Optional Cost Adder #5*** – Provide a Unit Cost to prepare and execute one (1) access agreement for one (1) off-site residential/commercial property in an effort to install groundwater monitoring wells.

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 selected consultant 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 – An updated 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 Activities:

Task 2.1 Proper Abandonment of improperly constructed monitoring wells – As noted above, monitoring wells MW-1 and MW-4 were installed to approximate total

depths of 25 ftbg and 26 ftbg, respectively, with bedrock noted on the well logs at depths of 15 ftbg and 16 ftbg. Both of the aforementioned wells were constructed with 15 feet of PVC screening material with five (5) feet of the screening interval installed in the overburden material and the remaining ten (10) feet of the screening interval installed in bedrock. Due to the screening intervals of the two (2) aforementioned monitoring wells crossing both five (5) feet of the overburden and ten (10) feet of the bedrock, there is concern that the two (2) monitoring wells are screened over multiple water bearing zones at the Site. Due to the concerns with the construction of bedrock monitoring wells MW-1 and MW-4, both of the aforementioned bedrock wells will be properly abandoned and replaced by a licensed driller.

Task 2.2 Installation of additional bedrock wells – As part of the characterization activities, the installation of five (5) additional bedrock monitoring wells are being proposed in an effort to complete the characterization and delineation efforts in the first bedrock aquifer. Specifically, two (2) bedrock monitoring wells (MW-1R and MW-4RD) will be installed in an effort to replace the improperly constructed monitoring wells MW-1 and MW-4. In addition, three (3) bedrock monitoring wells are proposed for installation at an off-site property to the East. The monitoring wells (MW-6R through MW-8R) will be installed in an effort to replace the previously installed and abandoned dry off-site monitoring wells MW-6 through MW-8. As part of the installation of the additional 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 map included in Attachment 1.
- The five (5) bedrock wells will be advanced to a total estimated depth of 40 feet below grade (ftbg) with approximately 20 feet of four-inch diameter, schedule 40 PVC flush threaded casing and approximately 20 feet of four-inch diameter, schedule 40 PVC flush threaded 0.010 slot size screening. The 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.
- The annular space will be filled using Morie #2 sand from the bottom of the screen to not more than 4-inches above the screen. A two (2) foot bentonite seal will be placed above the sand pack and the remainder of the annular space will be filled with a portland/bentonite grout to approximately 0.5 ftbg.
- A flush-mounted manhole shall be cemented into place to complete the well at grade level. A locking, pressure fit, watertight cap will be used to prevent the

infiltration of surface runoff and rainwater and to restrict access by unauthorized individuals.

- The wells should be drilled and constructed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001). Based on anticipated drilling conditions, a Pennsylvania-licensed driller should install the wells using air-rotary methods.
- Drilling should be conducted under the supervision of a Pennsylvania-licensed Professional Geologist, although a field supervisor may be used in the field on a day-to-day basis. The field supervisor should visually inspect subsurface materials encountered during drilling, screen cuttings with a PID, and complete field well construction logs. When encountered, soils should be described using the Unified Soil Classification System. Bedrock should be described using USGS descriptive protocol, with the identification of the depth of and size of potential fractures and/or other subsurface anomalies.
- The newly installed monitoring wells should be developed to promote adequate hydraulic connection between the aquifer and the well. Depending on the depth and amount of sediment in the well, development should be completed via mechanical surging using either a bailer or an electric submersible pump, or by airlift techniques. Please note that the management of the groundwater removed from the well during development shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance and Department directives.
- Soil/rock cuttings and liquids generated during the drilling activities should be managed in a manner consistent with the protocols set forth by the PADEP. Disposal of soil/rock cuttings, if necessary, 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 no longer 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 all potential waste related to the tasks included in the SOW. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid.
- Compile the field findings into comprehensive monitoring well construction diagrams and logs.

- Assume that no formal access agreement will be required with the off-site property owner; just appropriate scheduling and notifications. If a formal agreement is required by the off-site property owner, then the access agreement work will be conducted under *Optional Cost Adder #5*.

Task 2.3 Installation of additional overburden monitoring wells – Two (2) additional overburden monitoring wells are proposed for installation at this Site. One of the wells (MW-4RS) will be installed in an effort to replace improperly constructed monitoring well MW-4. The second overburden well will be installed near MW-5 to confirm groundwater flow direction in the overburden water bearing zone. As part of the installation of the additional bedrock 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 map.
- For the two (2) 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 1.5 feet of four-inch diameter, schedule 40 PVC flush threaded casing and approximately 13.5 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.
- The annular space will be filled using Morie #2 sand from the bottom of the screen to not more than 4-inches above the screen. A 0.5 foot bentonite seal will be placed above the sand pack and the remainder of the annular space will be filled with a portland/bentonite grout to approximately 0.5 ftbg.
- A flush-mounted manhole shall be cemented into place to complete the well at grade level. A locking, pressure fit, watertight cap will be used to prevent the infiltration of surface runoff and rainwater and to restrict access by unauthorized individuals.
- The wells should be drilled and constructed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001). Based on anticipated drilling

conditions, a Pennsylvania-licensed driller should install the wells using air-rotary methods.

- Drilling should be conducted under the supervision of a Pennsylvania-licensed Professional Geologist, although a field supervisor may be used in the field on a day-to-day basis. The field supervisor should visually inspect subsurface materials encountered during drilling, screen cuttings with a PID, and complete field well construction logs. When encountered, soils should be described using the Unified Soil Classification System. Bedrock should be described using USGS descriptive protocol, with the identification of the depth of and size of potential fractures and/or other subsurface anomalies.
- The newly installed monitoring wells should be developed to promote adequate hydraulic connection between the aquifer and the well. Depending on the depth and amount of sediment in the well, development should be completed via mechanical surging using either a bailer or an electric submersible pump, or by airlift techniques. Please note that the management of the groundwater removed from the well during development shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance and Department directives.
- Soil/rock cuttings and liquids generated during the drilling activities should be managed in a manner consistent with the protocols set forth by the PADEP. Disposal of soil/rock cuttings, if necessary, 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 no longer 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 all potential waste related to the tasks included in the SOW. Please estimate the volume of waste using your professional opinion, experience, and the data provided. Invoices submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for this Site will not be paid.
- Compile the field findings into comprehensive monitoring well construction diagrams and logs.

Task 2.4 Site Survey – Following the installation of the additional 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 (onsite and off-site), borings and the site supply well location, the Site building, property boundaries, and important Site features 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. 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 2.5 Complete Transducer Survey on the onsite and off-site monitoring wells –

In an effort to monitor the local groundwater level fluctuations and to determine if there is any influence on the monitoring well network from the pumping at the Rahns production well, a transducer survey will be conducted using pressure transducer in a total of five (5) bedrock wells (MW-2, MW-4RD, MW-6R, MW-7R, and MW-8R) and three (3) overburden wells (MW-3, MW-4RS, and MW-9). The transducer survey will be conducted for a minimum period of one (1) complete week by the selected consultant. Specifically, if data collection by transducers in each of the selected monitoring wells begins at 11:00 am on Tuesday then the transducers will be left to monitor levels until at least 11:00 am on the following Tuesday. By conducting the survey for one (1) complete week, the transducers will be monitoring water levels during normal pumping hours at the Rahns facility as well as non-pumping periods such as nights and the weekend. The selected consultant will evaluate the data collected by the transducer during the survey and discuss the findings in the SCR.

Task 2.6 Slug Tests - Rising head slug testing will be conducted on four (4) of the 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 will be used to monitor the water levels in the wells during each of the slug tests. Using 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 provide information on the hydrogeologic conditions at the Site as well as allow for any modeling efforts and risk assessment activities (if deemed necessary) to be conducted with Site specific data rather than using published values.

Task 3.0 Groundwater Monitoring and Sampling:

Following the installation and development of the seven (7) additional monitoring wells, the selected consultant will gauge and sample the expanded monitoring well network. 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 PAUSTIF 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 first groundwater monitoring and sampling event should be conducted at the Site approximately two (2) weeks after the additional monitoring wells are installed. The second groundwater sampling event should be conducted approximately four (4) weeks after the first event is completed. The selected consultant will conduct the two (2) groundwater monitoring and sampling events prior to the preparation and submittal of the SCR. 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 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;
- 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 unleaded gasoline short lists (benzene, toluene, ethylbenzene, total xylenes, MTBE, naphthalene, and isopropylbenzene) using laboratory methods 8260B in accordance with Pennsylvania's Storage Tank Regulation procedures and cleanup standard criteria as specified in Pennsylvania's Act 2. Do not include TMBs in the sampling analyses; and
- 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). Results from groundwater monitoring and sampling events will be summarized and presented to the PADEP in the SCR.

Please note that within two (2) weeks of receiving the analytical data from the second groundwater monitoring and sampling event, the selected consultant must provide an updated summary groundwater data table and groundwater elevation maps from both events to ICF and the Technical Contact to review. Based on the provided data, the Technical Contact, ICF, and the selected consultant will decide whether the report to be submitted will be a SCR that includes discussions on predictive modeling and a risk assessment (work related to the predictive modeling and risk assessment would be conducted under *Optional Cost Adder #4*) or a combined SCR/RACR that discusses the completed characterization activities and the Site's compliance with the applicable SWHS (work related to the RACR portions of the combined report would be conducted under *Optional Cost Adder #3*).

Task 4.0 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, the selected consultant will prepare a SCR for the Site. The information gathered during the aforementioned tasks should be incorporated with the data collected by the previous consultant 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, geologic data, results and analysis of the transducer survey and aquifer testing, discussion on the hydrogeologic conditions of the site and the impact of the Rahns pumping well on the monitoring well network, and a series of summary tables, appendices and figures illustrating the information provided in the report. In addition, the selected consultant shall take into consideration the PADEP's comments in recent correspondence when preparing the SCR.

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, 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.

Please assume for bidding purposes that an electronic version of the AutoCAD file will not be provided; however the excel tables will be provided to the winning bidder.

Optional Cost Adders:

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

- ***Optional Cost Adder #1*** – Provide a Unit Cost to 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 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 prepare a combined SCR/RACR for submittal to the PADEP instead of a SCR. The RACR portion of the report would request closure under the applicable Residential Used-Aquifer SWHS. The costs included in this optional cost adder would just be the additional costs needed to write the SCR/RACR above and beyond the costs included in the bid response to write the SCR. The RACR portion of the combined report should appropriately present an evaluation of

the current Site conditions and present significant conclusions and request closure from the PADEP. The information gathered during the activities completed as part of Task 1.0, Task 2.0, and Task 3.0 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, discussion on the hydrogeologic conditions of the site and the impact of the Rahns pumping well on the monitoring well network, geologic data, results and analysis of the aquifer testing, and a series of summary tables, appendices, and figures illustrating the information provided in the report. The RACR 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 and all AutoCAD maps / plans included in the report (e.g., site plan / base map, groundwater elevation maps, dissolved plume maps, etc.) and appendices (e.g., boring logs, tables, disposal documentation, aquifer testing results 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 RACR. Once the selected consultant has addressed comments on the draft, the selected consultant shall finalize and issue the report to the PADEP. The draft report is to be submitted no later than the date specified in the schedule presented by the selected consultant.

- **Optional Cost Adder #4** – Provide a Unit Cost to complete fate and transport modeling and a risk assessment for the Site consistent with the Act 2 guidance documents and summarize the findings in the SCR. The evaluation should consider the historical groundwater exceedances and assess the potential for contaminant migration. Please specify which modeling software(s) 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. In addition, the selected consultant shall take into consideration the PADEP's comments in recent correspondence when completing the Fate and Transport modeling and summarizing the findings in the SCR.

The preliminary 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 baseline risk assessment or to develop site-specific standards. If complete exposure pathways exist, the fate and transport analysis, which is part of the exposure assessment, should be documented in the risk assessment section of the SCR.

- **Optional Cost Adder #5** – Provide a Unit Cost to secure offsite access on one (1) adjacent residential/commercial property in an effort to install a groundwater monitoring well(s).

The cost should cover the necessary time and materials needed to contact the off-site property owner, draft an access agreement, and obtain approval with one (1) draft revision to the access agreement. The cost does not include any legal fees, payments or permitting costs. Providing this unit cost does not commit the consultant to obtain the access agreement. 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 property.

On the provided cost spreadsheets (Attachments 2 and 3) is an area where a unit cost per event/adder needs to be specified. If any of these *Optional Cost Adders* are authorized to be completed at any time during this project, then the work scope will be conducted at the unit cost provided by the bidder.

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 (transducer survey, aquifer testing, report submittal, groundwater sampling, well abandonment and 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.

QUALIFICATION QUESTIONS

In order for proposals to be considered administratively complete, the 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 of record for in the Southeastern 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 Southeastern 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 INSTRUCTIONS

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. If any changes to the proposed contract, other than those usual / necessary to describe the work involved in this bid, are requested; please provide a list of the changes referenced to the specific section(s);
- 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 no longer 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 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.

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 May 17, 2010, the Technical Contact (or designee) will be at the site at 11:00 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: Corner Amoco Site Meeting Claim No. 2006-0012(S). Any firm that does not attend the May 17, 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 – PAUSTIF Competitive Bidding Fact Sheet