

**COMPETITIVE BID SOLICITATION  
FIXED-PRICE DEFINED SCOPE-OF-WORK TO COMPLETE  
ADDITIONAL SITE CHARACTERIZATION ACTIVITIES**

**Stop 22, Inc. Site  
4180 William Penn Highway  
Murrysville, Westmoreland County, Pennsylvania 15668  
PADEP Facility ID # 65-23315; USTIF Claim # 2005-123(F)**

**January 25, 2013**

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The Pennsylvania Underground Storage Tank Indemnification Fund (USTIF) is providing this Request for Bid (RFB) Solicitation, on behalf of the Claimant for the above-referenced claim, Baljit S. Malhi, who hereafter is referred to as the Client or Solicitor, to prepare and submit a fixed-price proposal for a defined scope of work (SOW) to complete the tasks necessary to characterize and investigate conditions at the above-mentioned facility (the Site).

Corrective action under Chapter 245 is being conducted at this Site in response to several confirmed petroleum releases, the first of which occurred in 1993. Characterization activities and interim remedial actions (IRAs) were performed to address the releases. The characterization activities and IRAs included, but were not limited to the following:

- The installation of 20 monitoring wells in a fractured bedrock aquifer
- Laboratory analysis of soil, groundwater, separate-phase liquid (SPL), and soil gas samples
- The excavation and removal of petroleum-impacted soil from the subsurface, and
- Numerous vacuum truck extraction events termed enhanced fluid recovery (EFR) events to remove petroleum-impacted groundwater and separate-phase liquid (SPL) from monitoring wells

In September 2008, a Site Characterization Report (SCR) was submitted to the Pennsylvania Department of Environmental Protection (PADEP). The SCR proposed the use of the Statewide Health Standard (SHS) for soil and groundwater. In February 2012, the PADEP disapproved the SCR citing various deficiencies including difficulties with the interpretation of the site hydrogeology and the need to delineate the extent of contaminants of concern (COCs) in groundwater. A remedial action plan (RAP) has not been submitted to the PADEP.

The Solicitor has an open claim (No. 2005-123(F)) with the USTIF and the corrective action work will be completed under this claim. One hundred percent (100%) reimbursement of Solicitor-approved, reasonable, necessary and appropriate costs up to claim limits for the corrective action work described in this RFB will be provided by the USTIF.

The scope of work (SOW) included in this RFB solicitation generally includes the following corrective action components (additional details provided later in this solicitation):

- Potential source area investigations (26 soil borings)
- Obtain off-site access
- Monitoring well installations (13 monitoring wells)

- Borehole geophysical logging
- Surveying
- Groundwater sampling
- Continuous water level monitoring
- Vapor intrusion (VI) assessment
- Groundwater use survey
- Site Characterization Report preparation and submittal

To be considered for selection, **one hard copy of the signed bid package and one electronic copy (one PDF file on a compact disk (CD) included with the hard copy) must be provided directly to the Fund's third party administrator, ICF International (ICF), to the attention of Deb Cassel, Contracts Administrator.** She will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. Bid responses will only be accepted from those firms who attended the mandatory pre-bid site meeting. **The ground address for overnight/next-day deliveries is ICF International, 4000 Vine Street, Middletown, PA 17057, Attention: Deb Cassel. The outside of the shipping package containing the bid response must be clearly marked and labeled with "Bid – Claim # 2005-123(F).** Please note that the use of U.S. Mail, FedEx, UPS, or other delivery method does not guarantee delivery to this address by the due date and time listed below for submission. Firms mailing bid responses should allow adequate delivery time to ensure timely receipt of their bid package.

**The bid response must be received by 3:00 PM, on March 13, 2013.** Bids will be opened immediately after the 3:00 PM deadline on the due date. Any bid packages received after this due date and time will be time-stamped and returned. If, due to inclement weather, natural disaster, or any other cause, ICF's office is closed on the bid response due date, the deadline for submission will automatically be extended to the next business day on which the office is open. The Fund's third party administrator, ICF, may notify all firms who attended the mandatory site meeting of an extended due date. The hour for submission of bid responses shall remain the same. Submitted bid responses are subject to Pennsylvania Right-to-Know Law.

The ICF Claims Handler and the Technical Contact will assist<sup>1</sup> the Solicitor in evaluating the competitive bids received; however, it is the Solicitor who will ultimately select the successful bidder with whom it will negotiate a mutually agreeable contract. Bid evaluation will consider, among other factors, estimated total cost, unit costs, schedule, discussion of technical and regulatory approach, qualifications, and contract terms and conditions. The technical approach will be the most heavily weighted evaluation criteria. The Solicitor (via the Technical Contact) will inform the successful bidder by email. The unsuccessful bidders will be informed by email and by posting the name of the successful bidder on the USTIF's website, following the full execution of the Remediation Agreement by the Solicitor and the successful bidder.

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<sup>1</sup> This assistance is being provided on behalf of ICF International (ICF) who is the USTIF claims administrator.

## A. SOLICITOR, ICF CLAIMS HANDLER, AND TECHNICAL CONTACT INFORMATION

<u>Solicitor</u>	<u>ICF Claims Handler</u>	<u>Technical Contact</u> <sup>2</sup>
Baljit S. Malhi Stop 22, Inc. 4180 William Penn Highway Murrysville, PA 15688	Bonnie T. Mackewicz ICF International, Inc. 4000 Vine Street Middletown, PA 17057 Phone: (570) 739-1951 Fax: (717) 948-1767 Bonnie.Mackewicz@icfi.com Cc: Debra.Cassel@icfi.com	Christopher D. O'Neil, P.G. Groundwater Sciences Corporation 2601 Market Place Street Suite 310 Harrisburg, PA 17110 Phone: (717) 901-8176 Fax: (717) 657-1611 coneil@groundwatersciences.com

**NOTE:** All questions regarding this RFB Solicitation and the subject Site conditions must be directed via e-mail to the Technical Contact identified above with the understanding that all questions and answers will be provided to all bidders. The e-mail subject line must be "Stop 22, Inc. 2005-123(F) – RFB QUESTION". Bidders must neither contact nor discuss this RFB Solicitation with the Solicitors, USTIF, PADEP, or ICF 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. **All questions must be received by close of business on March 1, 2013.**

## B. ATTACHMENTS TO THIS RFB SOLICITATION

The following attachments are included with this RFB to assist in bid preparation:

- Attachment 1a:** Site Characterization Report dated September 2008 (United Environmental Group, Inc. [UEG])
- Attachment 1b:** PADEP Letter dated February 6, 2012, to Mr. Baljit S. Malhi (SCR Disapproval Letter)
- Attachment 1c:** Groundwater Sciences Corporation (GSC) Letter dated April 20, 2012 to Bonnie Mackewicz of ICF International (Evaluation of Continued EFRs as an Interim Remedial Action for the Presence of SPL) and Attachments
- Attachment 1d:** Miscellaneous Mining and Geology-Related Information provided to GSC by the PADEP.
- Attachment 1e:** Underground Conveyance Pipeline Evaluation Report dated August 21, 2012 (P. Joseph Lehman, Inc. (PJL))
- Attachment 1f:** Groundwater Sampling Report for Third Quarter 2012 (PJL)

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<sup>2</sup> Subcontractor to ICF.

**Attachment 1g:** Historical Groundwater Quality and Elevation Data (UEG)

**Attachment 1h:** GSC Site Maps and Cross Sections (Figures 1 through 7)

**Attachment 2:** Standardized Bid Cost Spreadsheet

**Attachment 3:** Draft Remediation Agreement

## C. SITE SETTING AND BACKGROUND INFORMATION

Corrective action is being performed in response to confirmed petroleum releases at the Stop 22, Inc. property. The following information is provided to summarize the Site conditions, and was derived from, relevant information provided in previous environmental reports, including the reports and documents provided in **Attachment 1** to this RFB. If there is any conflict between the summary provided herein and the source documents, the bidder should defer to the source documents. The information has not been independently verified by ICF or the Technical Contact.

### Site Name/Address

The Stop 22, Inc. property is located at 4180 William Penn Highway, Murrysville, Westmoreland County, Pennsylvania (see Figure 1 in **Attachment 1h**). In June 2003, the Solicitor purchased the property.

### Site Use Description

The Stop 22, Inc. property is currently an active Citgo retail gasoline station.

### Current Petroleum Storage On-Site

The following PADEP-regulated underground storage tanks (USTs) were installed at the Stop 22 property in 1982:

- Three 10,000-gallon unleaded gasoline USTs that are located next to each other in the same excavation. Two of the USTs are currently in operation and one of the USTs was closed in placed in May 2004.
- Two 6,000-gallon USTs, one containing kerosene and the other containing diesel fuel, that are located next to each other in the same excavation. Both of the USTs are currently in operation.

In addition, one propane aboveground storage tank (AST) is present at the Stop 22, Inc. property. Detailed information on the storage tanks is provided in **Attachment 1a** and the locations of the USTs and associated dispensers are illustrated on Figure 2 in **Attachment 1h**.

## **Current and Historical Constituents of Concern**

The constituents of concern (COCs) at the Site are the old PADEP unleaded gasoline shortlist (benzene, toluene, ethylbenzene, total xylenes [BTEX], isopropylbenzene, [cumene], methyl tert-butyl ether [MTBE], and naphthalene).

## **Site Description**

Figures illustrating pertinent Site features are included in **Attachment 1h**. Commercial and residential use properties surround the site. The Stop 22, Inc. property and the surrounding area are served by public water and sewer. Detailed information on utilities is included in **Attachment 1e**. Overhead and underground utilities are located throughout the Site.

## **Site Topography**

A USGS 7.5-minute topographic quadrangle map illustrating the location of the site is provided as Figure 1 in **Attachment 1h**. The site is situated within an area of relatively high topographic relief that slopes from north to south. However, the ground surface at the Stop 22, Inc. property is relatively flat with an elevation of approximately 940 feet above mean sea level (AMSL).

## **Surface Water**

The closest surface water body to the Site is an unnamed tributary to Turtle Creek. The unnamed tributary crosses underneath the Site from north to south through a 42-inch diameter underground conveyance pipeline. The inlet for the pipeline is located on the north side of the Old William Penn Highway approximately 30 feet to the north of the Stop 22, Inc. property. The outlet for the pipeline is located along the north side of Turtle Creek approximately 170 feet to the south of the Stop 22, Inc. property. The invert elevation of the pipeline at the inlet and outlet are approximately 919 and 898 feet, respectively. Turtle Creek flows past the outlet towards the west. Detailed information on the pipeline is documented in **Attachment 1e**. The pipeline, Turtle Creek, etc. are illustrated on Figures 2 and 3 in **Attachment 1h**.

## **Site Geology**

Bedrock at the Site is mapped as the Glenshaw Formation within the Pennsylvanian age Conemaugh group. The Glenshaw Formation is described as a heterogeneous unit comprised of alternating layers of shale, sandstone, siltstone, limestone, claystone, and coal. Structurally, the Site is mapped as being located along the east side of the Roaring Run Anticline (see Figures in **Attachment 1d**). Based upon the mapped geology, the strike of bedding in bedrock beneath the Site appears to be north 40 to 60 degrees east with a relatively shallow dip towards the southeast.

The Upper Freeport Coal Seam is mapped as underlying the Site at an elevation of approximately 890 feet AMSL (approximately 50 feet below grade [fbg]). Information provided by PADEP District Mining Office representatives indicates no record of coal mining beneath the Site (**Attachment 1d**).

Approximately 3 to 12 feet of unconsolidated material generally lie beneath the Site. Along the underground conveyance pipeline, the unconsolidated materials are approximately 25

feet thick. Bedrock below the unconsolidated material consists of predominantly sandstone with layered coal, claystone, and limestone encountered at depths of approximately 70 to 85 fbg in monitoring wells MW-23D and MW-24D. Cross sections illustrating the Site geology (A-A' and B-B') are included as Figures 3 and 4 in **Attachment 1h**.

### **Site Hydrogeology**

Three observation wells are present in the gravel backfill material around the unleaded gasoline USTs (i.e., MW-1, MW-2, and MW-3). The wells are approximately 10 feet deep and have a depth to water of approximately 3 fbg. The water in the wells is believed to be surface water that has accumulated in the gravel backfill material surrounding the USTs (i.e., perched water).

Groundwater in the monitoring wells at the Site is present within a fractured bedrock aquifer and ranges in depth from approximately 10 to 55 fbg. Based on topography and general recharge/discharge relationships, the groundwater gradient is expected to be to the south towards Turtle Creek. However, the lateral gradient has been interpreted to be multidirectional in the shallow wells and towards the north in the deep wells (see groundwater elevation contour maps included in **Attachment 1a and 1f**). There is a strong downward vertical gradient in the bedrock aquifer based on a comparison of the groundwater elevations in the shallow wells to the deep wells. In addition, the groundwater elevations in the deep wells appear to be lower than the expected local discharge boundary, the surface water elevation of Turtle Creek.

Interpretation of the groundwater gradient is complicated at the Site because the total depth of the wells and length of the well screens vary. One of the primary goals of the SOW is to further understand and define the groundwater gradient in the bedrock aquifer.

### **Nature of Confirmed Releases and Subsequent Activities**

In October 1993, a release of unleaded gasoline was discovered in an underground telecommunications manhole located on the north side of the Stop 22, Inc. property along Old William Penn Highway and in the unleaded gasoline UST field observation wells (MW-1, MW-2, and MW-3). Separate-phase liquid (SPL) and petroleum impacted water was removed from the manhole and the observation wells to address the release. The source of the release was determined to be a leak from an underground product pipeline. Soil sampling was performed in May 1994 at thirteen locations (A through N) to assess soil conditions in the area of the release (see Figure 5 in **Attachment 1h**). The samples were submitted for laboratory analysis of total petroleum hydrocarbons-gasoline range organics (TPH-GRO) and BTEX. The soil sample collected at location B contained concentrations greater than the residential used aquifer (RUA) soil-to-groundwater medium specific concentrations (MSCs) (see **Attachment 1a** for detailed information).

In July/August 1995, unleaded gasoline and diesel fuel impacted soil was discovered during the removal and replacement of product dispensers at the Stop 22, Inc. property (location uncertain). Approximately 61 tons of petroleum impacted soil was excavated and removed from the subsurface during the dispenser upgrade. Post excavation soil samples were not collected for laboratory analysis.

In January 2001 a Phase II Environmental Assessment was completed at the Stop 22, Inc. property. The assessment included the installation and sampling of three monitoring wells.

The results of the assessment were documented in a report prepared by Moody & Associates, Inc. dated April 6, 2001 (see Appendix H in **Attachment 1a**). USTIF claim 01-029 was opened as a result of the groundwater concentrations detected in the wells.

In April/May 2004, water was detected in one of the 10,000-gallon unleaded gasoline USTs. The source of the water was determined to be from a hole in the bottom of the UST. Because the UST with the hole was located between the other two USTs, it could not be removed and was closed in place.

In July 2005, SPL was discovered in UST observation well MW-3. The source of the unleaded gasoline was determined to be a leaking underground swing joint at the premium unleaded gasoline UST. USTIF claim 05-123 was opened as a result of the release.

From July 2005 through January 2012, EFR events were performed at the Site. The EFRs consist of using a vacuum truck to remove groundwater and SPL (when present) from wells. EFRs were performed on UST field observation well MW-3 and monitoring wells MW-6, MW-7R, MW-13, MW-14, MW-17D, and MW-22D at a frequency of up to once per week. An evaluation of the effectiveness of EFRs was completed by GSC and is documented in a letter from GSC to ICF dated April 20, 2012 (**Attachment 1c**). A recommendation was made in the letter to discontinue the EFRs because they were determined not to be an effective method to remediate the site.

In August 2007, an accident occurred that resulted in a release of unleaded gasoline from an underground unleaded gasoline steel product pipeline. In September 2007, the steel piping was replaced with single-walled fiberglass piping. Approximately 134 tons of petroleum-impacted soil was excavated and removed from the subsurface during the piping replacement activities. Nine post excavation soil samples were collected following piping replacement activities (S1 through S9). The samples were analyzed for BTEX, cumene, MTBE, and naphthalene. The locations of the soil samples are illustrated on Figure 5 in **Attachment 1h**. Samples S4, S5, and S8 contained concentrations greater than the RUA soil-to-groundwater MSCs. The activities associated with the release are documented in a Piping Closure Report prepared by UEG (see Appendix I in **Attachment 1a**). USTIF claim 07-310 was opened as a result of the release.

In September 2008, a SCR prepared by UEG was submitted to the PADEP (**Attachment 1a**). The SCR proposed the use of the SHS for soil and groundwater at the Site. A summary of the previous investigation and remedial activities performed at the Site was provided in the SCR. Additionally, the SCR documented the completion of monitoring well installations and sampling/analysis of soil, groundwater, and soil gas samples.

In April 2009, SPL was discovered in monitoring well MW-22D following an EFR event. The source of the SPL was determined to be a release from the diesel fuel UST system. USTIF claim 09-142 was opened as a result of the discovery of the SPL in MW-22D.

In a letter addressed to the Solicitor from the PADEP dated February 6, 2012, the September 2008 SCR was disapproved (**Attachment 1b**). The following is a summary of the reasons that the PADEP provided for disapproving the SCR:

1. Difficulties with the interpretation of the site hydrogeology.
2. Suspect monitoring well purging techniques. Specifically, a vacuum truck was used

- to purge the wells prior to sampling.
3. The extent of contamination was not fully delineated.
  4. The effectiveness of EFR events was not demonstrated.
  5. Questionable groundwater fate and transport model input parameters.
  6. The purpose for the risk evaluation was unclear.
  7. Additional detail related to cross sections needed to be provided.
  8. A door-to-door survey of groundwater use on surrounding properties needed to be performed.

In July through August 2012, the location, construction, elevation, etc. of the underground conveyance pipeline was evaluated. Additionally, a professional survey was completed to update the Site base map and determine reference elevations of the monitoring wells. The survey included determining the elevation at two locations along the north and south sides of Turtle Creek in the vicinity of the piping outlet to enable the elevation of the surface water to be measured. The results of the evaluation and survey are documented in an *Underground Conveyance Pipeline Evaluation Report* dated August 21, 2012 (**Attachment 1e**). Photographs of the Stop 22, Inc. property and the surrounding area are included as an attachment to the report.

Two rounds of groundwater samples have been collected from the existing monitoring well network since the last EFR event was completed in January 2012 (i.e., May and August 2012). The most recent sample analytical results are documented in a *Groundwater Sampling Report for Third Quarter 2012*, dated October 29, 2012 (**Attachment 1f**).

A summary of the historical groundwater quality data for the Site is included in **Attachment 1g** and the results of the samples collected in May 2012 are presented on Figures 3, 4, and 6 in **Attachment 1h**.

The following is a brief summary of the groundwater quality analytical data:

- The highest COC concentrations are consistently detected in samples from UST field observation well MW-3 and monitoring well MW-22D,
- The lateral extent of COCs at concentrations that are greater than the RUA MSCs in the shallow portion of the bedrock aquifer is delineated by the existing monitoring well network,
- The lateral extent of COCs at concentrations that are greater than the RUA MSCs in the in the deep portion of the bedrock aquifer has not been fully delineated, and
- The vertical extent of COCs at concentrations that are greater than the RUA MSCs has not been fully delineated.

#### D. OBJECTIVE / SCOPE OF WORK

This RFB seeks to obtain competitive bids from qualified contractors to perform the SOW activities described herein. The SOW is intended to further investigate the Site conditions and was reviewed and commented on by the PADEP case manager (Tom Fuller).

The SOW was prepared following the guidelines of Pennsylvania Code Title 25, Chapter 245 (The Storage Tank and Spill Prevention Program) and Chapter 250 (The Land

Recycling Program). The critical SOW MILESTONES and a general sequence of events for completion in this RFB are as follows:

- Investigation of potential source areas;
- Monitoring well installations, sampling, and abandonment; and
- Preparation and submittal of an SCR.

Following the completion of the SOW activities to the satisfaction of the PADEP, the remaining corrective actions necessary to obtain ROL for the Site will either be competitively bid or the Solicitor may choose to retain the consultant selected for this RFB.

The submitted bid shall follow the MILESTONE format outlined below. Bids shall include a detailed description of the anticipated costs for each milestone including labor rates, time requirements, and equipment costs. A Standardized Bid Spreadsheet, to be completed and attached to the bid, is included as **Attachment 2**. The fixed-price cost for each of the milestones shall include all costs for preparation of any pertinent project guidance documents in accordance with Chapter 245 (e.g., health and safety plan [HASp], waste management plan, field sampling/analysis plan, and quality assurance/quality control [QA/QC] plan), utility clearance and project management, scheduling and coordination time deemed necessary to complete each MILESTONE.

#### **MILESTONE A – POTENTIAL SOURCE AREA INVESTIGATIONS**

The subsurface conditions at the potential source areas (e.g., USTs and fueling islands) shall be investigated through the installation and sampling of 26 soil borings (SB-101 through SB-126). The approximate locations of the borings are illustrated on Figure 5 in **Attachment 1h**. The actual boring locations shall be determined based upon the site conditions encountered (e.g., equipment access to the proposed locations and underground/aboveground utility avoidance).

Underground utility clearance will consist of notifying the Pennsylvania One Call System, Inc. and reviewing the drilling locations with the property owner. In addition, the surface paving shall be cored/removed at each location and the borings physically cleared from the ground surface to a depth approximately 4 fbg. If an underground utility or refusal is encountered, a second attempt to clear the boring shall be made at an alternative location.

The borings shall be advanced with a direct-push rig from a depth of approximately 4 fbg to refusal. Soil samples shall be collected continuously during advancement through the entire soil column.

The soil samples shall be inspected for physical characteristics (lithology, color, moisture content, etc.) and signs of apparent petroleum impact (i.e., staining, odor, etc.). Additionally, the samples shall be screened with a calibrated photoionization detector (PID) for total volatile organic compounds (VOCs). For each 2-foot sample interval, the screening procedure shall consist of partially filling a dedicated disposable container (e.g., plastic bag or jar) with a representative sample of soil, sealing the container, agitating the sample, allowing headspace to develop, and measuring the head space inside the container with the PID. The subsurface conditions encountered during the sampling shall be documented on a log for each boring.

Two soil samples shall be collected from each boring location for laboratory analysis based upon the field inspection and PID screening results. The soil samples shall be collected in laboratory-provided containers in accordance with EPA Method 5035. The samples shall be submitted to a PADEP-certified laboratory for analysis of BTEX, cumene, MTBE, and naphthalene using EPA Method SW846 8260.

Upon the completion of the sampling, the borings shall be backfilled and the surface conditions restored. Investigation-derived waste (IDW) should be disposed of per the PADEP Southwest Regional Office (SWRO) guidance and bidders should check with the SWRO for current requirements.

### **MILESTONE B – OBTAIN OFF-SITE ACCESS**

The selected consultant shall enter into access agreements with five (5) off-site property owners to facilitate the installation of the monitoring wells. Preliminary information on the ownership of the off-site properties is provided on Figure 7 in **Attachment 1h**. The Technical Contact has not discussed the proposed SOW with the off-site property owners.

The selected consultant shall confirm the ownership/contact information for the off-site properties; contact them, both verbally and in writing, to discuss the proposed SOW, schedule, and receptiveness to enter into an access agreement; and prepare/execute written access agreements. A written request for assistance to obtain an agreement(s) shall be made to the PADEP, if necessary. Bidders should clarify in their bid the anticipated level of effort to obtain off-site access.

### **MILESTONE C – MONITORING WELL INSTALLATIONS**

The groundwater conditions at the Site shall be further investigated through the installation of thirteen (13) new monitoring wells. The purpose for the wells is to delineate the lateral extent of COCs in the shallow and deep portions of the bedrock aquifer; delineate the vertical extent of COCs in the deep portion of the bedrock aquifer; and further characterize the hydrologic conditions at the Site.

The approximate locations of the new monitoring wells are illustrated on Figures 3, 4, and 7 in **Attachment 1h**. The actual well locations shall be determined based upon the site conditions encountered (i.e., equipment access to the proposed locations, underground/aboveground utility avoidance, etc.).

Underground utility clearance shall consist of notifying the Pennsylvania One Call System, Inc. and reviewing the drilling locations with the property owner(s). In addition, the surface paving shall be cored/removed at each location and the borings physically cleared from the ground surface to a depth approximately 4 fbg.

Drilling shall be completed using air rotary methods under the oversight of the selected contractor. Soil samples shall be collected using a decontaminated split-spoon sampler at 5-foot depth intervals beginning at a depth of approximately 5 fbg and continuing to refusal (e.g., 5 to 7 fbg, 10 to 12 fbg, etc.).

The soil samples shall be inspected and screened consistent with the procedure described in MILESTONE A. One soil sample shall be collected from each well location for laboratory analysis based upon the field inspection and PID screening results. The soil samples shall be collected in laboratory-provided containers in accordance with EPA Method 5035. The samples shall be submitted to a PADEP-certified laboratory for analysis of BTEX, cumene, MTBE, and naphthalene using EPA Method SW846 8260.

The new monitoring wells shall be drilled, constructed, and developed following the completion of the soil sampling in accordance with industry standards/practices, and consistent with PADEP requirements and guidelines (e.g., *PADEP Groundwater Monitoring Guidance Manual*, Document No. 383-3000-001, dated December 1, 2001). The actual drilling depths, well construction specifications, etc. shall be determined by a Pennsylvania-licensed professional geologist (P.G.) based upon the site conditions encountered during the performance of the work.

During the air rotary drilling, PID screening shall be performed at a minimum frequency of once every 5 feet. The subsurface conditions encountered during the drilling shall be documented on a log for each well.

The following additional information on the new monitoring wells is provided for clarification purposes.

#### Lateral Delineation Monitoring Wells in the Shallow Portion of the Bedrock Aquifer

Three (3) new 2-inch diameter poly vinyl chloride (PVC) monitoring wells shall be installed (MW-31, MW-32, and MW-33) to a depth of approximately 35 fbg with a screened interval of approximately 15 feet from approximately 20 to 35 fbg (equivalent to approximately 905 to 920 feet above mean sea level [AMSL]).

#### Lateral Delineation Monitoring Wells in the Deep Portion of the Bedrock Aquifer

Nine (9) new 2-inch diameter PVC monitoring wells shall be installed (MW-26D, MW-27D, MW-29D, MW-30D, and MW-34D through MW-38D) to a depth of approximately 60 fbg with a screened interval of approximately 10 feet from approximately 50 to 60 fbg (equivalent to approximately 880 to 890 feet AMSL). In addition, existing monitoring well MW-24D shall be abandoned by over drilling to the total well depth followed by sealing with grout from the bottom up using a grout pump and tremie pipe. Well MW-24D is currently the deepest well at the Site (approximately 91 fbg) and has the longest screened interval (approximately 30 feet long) (see Figure 4 in **Attachment 1h**)

#### Vertical Delineation Monitoring Well in the Deep Portion of the Bedrock Aquifer

One new double-cased monitoring well (MW-28D) (6-inch diameter steel by 2-inch diameter PVC) shall be installed to a depth of approximately 135 fbg. The steel casing shall be installed in an approximate 10-inch diameter borehole that extends to a depth of approximately 5 feet into competent bedrock. The steel casing shall be grouted in place and allowed to set for a sufficient amount of time prior to further advancement. The PVC well shall be constructed in an approximate 6-inch diameter borehole that is drilled to a depth of approximately 135 fbg with a screened interval of approximately 10 feet from approximately 125 to 135 fbg (equivalent to approximately 805 to 815 feet AMSL).

It is presumed that the screened intervals specified above will have sufficient groundwater yield to be completed as monitoring wells. The actual screened intervals shall be determined based upon the site conditions encountered.

The tops of the monitoring wells shall be secured with a locking/watertight cap inside a flush-on-grade manhole cover set in concrete.

Logs shall be prepared to document the subsurface conditions encountered and construction of each of the new monitoring wells.

IDW generated during the monitoring well installation and development activities should be disposed of per the PADEP SWRO guidance and bidders should check with the SWRO for current requirements.

## **MILESTONE D – BOREHOLE GEOPHYSICAL LOGGING**

Borehole geophysical logging shall be completed concurrent with the installation of the vertical delineation monitoring well in the deep portion of the bedrock aquifer (MW-28D). The purpose of the logging is to obtain detailed information on the geology, orientation of structural features (e.g., bedding planes, fractures, etc.), and hydrologic conditions within the borehole. The logging shall be performed approximately 24 hours following the installation of the steel casing and drilling of the well to the total target depth of approximately 135 fbg (prior to the construction of the 2-inch diameter PVC well).

Well MW-28D shall be logged using the following tools:

- Natural gamma,
- Conductivity,
- Temperature,
- Caliper,
- Optical televiewer to determine the location and orientation of fractures, bedding planes, etc. If the borehole fluid conditions are not conducive for the optical televiewer (i.e., fluid in the borehole must be relatively clear) an acoustic televiewer shall be used, and
- Heat pulse flow meter (ambient conditions only at select depth intervals) to identify the direction and rate of water movement in the borehole.

The borehole logging results shall be documented in a written report. At a minimum, the report shall include a detailed summary of the logging methods used, structural interpretations, a tabulated listing of structural features, and strip logs.

## **MILESTONE E – SURVEYING**

The locations of the soil borings and new monitoring wells shall be surveyed by a professional land surveyor (PLS) who is licensed in Pennsylvania using the Pennsylvania State Plane coordinate system with reference to the North American Datum of 1983 (NAD83). The elevation of the new wells (top of manhole cover and top of well casing) shall be surveyed to a vertical accuracy of 0.01 feet using the North American Vertical Datum

(NAVD 88). The survey information shall be incorporated into the figures, tables, etc. included in the SCR.

### **MILESTONE F – GROUNDWATER SAMPLING**

The new and existing monitoring wells shall be sampled no earlier than 14 days following the well development activities and three months thereafter (2 rounds). Depth-to-water (DTW) in the wells and the surface water level of Turtle Creek at the outfall of the underground conveyance pipeline shall be measured prior to each round of sampling. The measurements shall be obtained using an interface probe capable of distinguishing water and/or the presence or absence of SPL to the nearest 0.01 feet.

Groundwater sampling and analysis shall be conducted in accordance with industry standards/practices, and consistent with the PADEP requirements and guidelines (e.g., *PADEP Groundwater Monitoring Guidance Manual*, Document No. 383-3000-001 dated December 1, 2001). Non-dedicated purging and sampling equipment shall be decontaminated prior to use in accordance with generally accepted industry practices. The groundwater samples shall be submitted to a PA-certified laboratory for analysis of BTEX, cumene, MTBE, and naphthalene using EPA Method SW846 8260.

IDW generated during the groundwater purging and sampling activities should be disposed of per the PADEP SWRO guidance and bidders should check with the SWRO for current requirements.

### **MILESTONE G – CONTINUOUS WATER LEVEL MONITORING**

Continuous water level monitoring shall be performed following the construction of the new monitoring wells. The purpose of the monitoring is to assess groundwater elevation fluctuations in the shallow and deep portions of the bedrock aquifer, determine whether or not there are any indications of pumping or withdrawal from the aquifer, compare groundwater and surface water elevation fluctuations, and evaluate response to precipitation/recharge events. Monitoring shall be completed concurrently at the following locations over a two-week time period:

- Monitoring wells on the north side of the Site (MW-13, MW-23D, MW-28D, and MW-29D),
- Monitoring wells on the central part of the Site (MW-14 and MW-35D),
- Monitoring wells on the south side of the Site (MW-20 and MW-38D), and
- Turtle Creek at the outfall of the underground conveyance pipeline

Automated level recorders (e.g., transducer/data loggers) shall be used to perform the monitoring on a frequency of once every 10 minutes (144 measurements per day). Additionally, available precipitation data shall be obtained for comparison to the water level measurements. Upon the completion of the monitoring, the data shall be downloaded, organized into tabular format, and graphed for evaluation purposes and inclusion in the SCR.

## **MILESTONE H – VAPOR INTRUSION (VI) ASSESSMENT**

Soil gas sampling shall be performed at the Site to assess the VI pathway in accordance with industry standards/practices, and consistent with the PADEP requirements and guidelines (e.g., PADEP Land Recycling Program Technical Guidance Manual – Section IV.A.4. *Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard*, Document No. 253-0300-100, dated January 24, 2004).

Soil gas samples shall be collected from sample points installed at five locations to a depth of approximately 8 fbg, conditions permitting. The location of the sample points shall be determined based on the results of the previous Site investigations and the sampling performed under this SOW. Underground utility clearance shall consist of notifying the Pennsylvania One Call System, Inc. and reviewing the drilling locations with the property owner(s). In addition, the surface paving shall be cored/removed at each location and the boring physically cleared from the ground surface to a depth approximately 4 fbg.

Two rounds of soil gas samples shall be collected from the sample points using laboratory-provided Summa™ canisters equipped with calibrated flow regulators. In addition, one upwind (ambient) air sample shall be collected for Quality Assurance/Quality Control (QA/QC) purposes. The soil gas ambient air samples shall be submitted to a PA-certified laboratory for analysis of BTEX, cumene, MTBE, and naphthalene using Method TO-15.

## **MILESTONE I – GROUNDWATER USE SURVEY**

A door-to-door groundwater use survey was requested to be completed by the PADEP. The survey shall be completed following the installation and sampling of the monitoring wells (MILESTONE C and F) when the extent of COCs in groundwater is further delineated. The survey shall include all properties within a 500-foot radius of the Stop 22, Inc. property boundary. The selected consultant shall identify the ownership/contact information for the properties within the survey area and contact them (via telephone, in writing, and/or in person) to determine current and potential future groundwater use. The survey results shall be provided in tabular format with a map showing the locations of the properties surveyed, well locations, etc. for inclusion in the SCR.

## **MILESTONE J – SITE CHARACTERIZATION REPORT PREPARATION AND SUBMITTAL**

The selected consultant shall prepare and submit a SCR in accordance with 25 Pa Code §245.310 following the completion of the above milestones. The SCR shall document the results of the investigations conducted by the selected consultant and summarize the results of the previous investigations and interim remedial actions performed at the Site. The SCR shall include a conceptual Site model, fate and transport analysis, an evaluation of current/future exposure pathways and a preliminary screening of potential remedial alternatives. Tables, figures, cross sections, and other documentation that support the text shall be provided in the SCR. A conclusion that either the Site is fully characterized and approval of the SCR is requested, OR a conclusion that the characterization of the Site is not complete with a description of the additional activities recommended by the selected

consultant to complete the characterization shall be included in the SCR. The SCR shall be signed and sealed by a Pennsylvania-licensed professional geologist (P.G.).

Prior to submission of the SCR to the PADEP, it shall be prepared in draft format for review and comment by the Solicitor and USTIF. The bidders' schedule shall provide three weeks for this review following receipt of the draft report by the Solicitor and USTIF. All of the comments received by the Solicitors and USTIF shall be addressed prior to submission of the SCR to the PADEP.

### **MILESTONES K1-K2 – CONDUCT TWO ADDITIONAL QUARTERS OF GROUNDWATER SAMPLING AND REPORTING**

Following the submittal of the SCR, the selected consultant shall conduct groundwater sampling following the procedure included in MILESTONE F. Quarterly reports shall be prepared and submitted to the PADEP that summarize the sampling results. Each quarterly report shall include a write-up of activities performed, the results and conclusions, as well as historical groundwater elevation data, historical groundwater analytical data, groundwater elevation contour maps, isoconcentration maps for all constituents detected at concentrations that are greater than the RUA MSCs, and copies of laboratory analytical reports and chains of custody. A quarterly fixed-price cost shall be provided.

### **ADDITIONAL REQUIREMENTS**

In addition to the MILESTONES specified above, the selected consultant shall also:

- Complete necessary, reasonable, and appropriate project planning and management activities until the SOW specified in the executed remediation agreement is completed. Such activities would be expected to include client communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, QA/QC, scheduling, utility clearance, and other activities. Project planning and management activities will also include preparing and implementing any plans required by regulations or that may be necessary and appropriate to complete the SOW. This may include HASP, waste management plan, field sampling and analysis plan, QA/QC plan and/or access agreements. Project management costs shall be included in the fixed prices quoted for the MILESTONES specified above, as appropriate.
- Be responsible for coordinating, managing and completing the proper management, characterization, handling, treatment, and/or disposal of all IDW generated on the project in accordance with applicable regulations, and PADEP SWRO guidance and bidders should check with the SWRO for current requirements. IDW characterization and disposal documentation shall be maintained and provided to the Solicitor upon request and shall be included as an appendix to the SCR. IDW costs shall be included in the fixed prices quoted for the MILESTONES specified above, as appropriate.
- Be responsible for providing the Solicitor, property owners, and tenants with adequate advance notice prior to each visit to the Site. The purpose of the notifications is to coordinate with the Solicitor, property owners and tenants to

facilitate appropriate access to the areas of the Site necessary to complete the SOW. Return visits to the Site prompted by a failure to make the necessary logistical arrangements in advance will not constitute a change in the selected consultant's SOW or total quoted cost for the MILESTONES specified above.

- Be responsible for keeping the site monitoring wells in good condition, with each well properly sealed and locked between each monitoring/sampling event. The selected consultant is responsible for repairing any seals or locks that become defective during the completion of activities under the Remediation Agreement at its expense. If, during the mandatory pre-bid site meeting, any well(s) is (are) identified to be in need of repair or replacement, each bidder shall provide its estimated cost to repair/replace said well(s) in its bid. **NOTE: Any request for reimbursement of the reasonable costs to repair or replace a well or well surface completion will be considered on a case-by-case basis.**

All work shall be conducted in accordance with industry standards / practices, and be consistent with the applicable laws, regulations, and guidance (e.g., PADEP Groundwater Monitoring Guidance Manual, Document No. 383-3000-001 dated December 1, 2001).

Each bidder should carefully review the existing Site information provided in **Attachment 1** to this RFB and seek out other appropriate sources of information to develop a cost estimate and schedule to characterize the Site. There is no prequalification process for bidding. Therefore, bids that demonstrate an understanding of existing Site information and standard industry practices will be regarded as responsive to this solicitation.

## E. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable Fixed-Price Defined SOW contract (Remediation Agreement). A Sample Remediation Agreement is included as **Attachment 3** to this RFB Solicitation. This Sample Remediation Agreement contains the standard language that has been previously employed by other Solicitors on other USTIF-funded claims. The bidder must identify in the bid response and document any modifications that they wish to propose to the standard language contained on Pages 1 through 12 of the Sample Remediation Agreement in **Attachment 3** other than obvious site-specific modifications to fit this RFB (e.g., site name and PADEP Facility Number, assumptions, supporting documents, milestone descriptions, costs, and dates). The number and scope of any modifications to the standard agreement language will be one of the criteria used to evaluate the bid. **Any bid response that does not clearly and unambiguously state whether the bidder accepts the language presented in the Sample Remediation Agreement (Attachment 3) "as is", or that does not provide a cross-referenced list of requested changes to this agreement language, will be considered non-responsive.** This statement should be made in a Section entitled "Remediation Agreement". Any proposed changes to the agreement language should be specified in the bid response, however, these changes will need to be reviewed and agreed upon by both the Solicitor and the USTIF.

The Remediation Agreement fixed costs shall be based on unit prices for labor, equipment, materials, subcontractors/vendors and other direct costs. The total cost quoted by the selected bidder will be the maximum amount to be paid by the Solicitor unless a change in

scope is authorized and determined to be reasonable and necessary. There may be deviations from and modifications to this SOW during the project. The Remediation Agreement states that any significant changes to the SOW will require approval by the Solicitor, USTIF, and PADEP.

The bidder shall provide its bid using the Standardized Bid Cost Spreadsheet included as **Attachment 2** with descriptions for each MILESTONE provided in the body of the bid document. In the event that there is a discrepancy between the costs provided in the Standardized Bid Cost Spreadsheet and other parts of the submitted bid, the costs listed in the Standardized Bid Cost Spreadsheet will be used to evaluate the bid. It is the bidder's responsibility to confirm that the calculations on the Standardized Bid Cost Spreadsheet are correct. In addition to **Attachment 2**, the bidder shall provide a unit rate schedule that will be used for any out-of-scope work on this project.

**Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable". These variable cost items will not be handled outside of the total fixed price quoted for the SOW. Any bid response that disregards this requirement will be considered non-responsive to the bid requirements and, as a result, will be rejected and will not be evaluated.** The selected bidder's work under the USTIF claim will be subject to ongoing review by the Solicitor and USTIF or its representatives to assess whether the work has been completed and the associated incurred costs are reasonable and necessary.

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

Each bid package received will be assumed to be valid for a period of up to 120 days after receipt unless otherwise noted. The costs quoted in the bid and the rate schedule will be assumed to be valid for the contract.

## F. BID RESPONSE DOCUMENT

Each bid response document must include at least the following:

1. Demonstration of the bidder's understanding of the site information provided in this RFB, standard industry practices, and objectives of the project.
2. Fixed-price bid pricing using the Standardized Bid Cost Spreadsheet in **Attachment 2** and a unit rate schedule for any out-of-scope work. The following information relating to the bid pricing should be included as additional sheets in **Attachment 2** or discussed in the body of the bid document:
  - a. The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs, and equipment;
  - b. The bidder's proposed markup on other direct costs and subcontractors (if any);

- c. The bidder's estimated total cost by MILESTONE consistent with the proposed SOW identifying all level-of-effort and costing assumptions.
3. Documentation of the bidder's level of insurance consistent with the levels listed in Attachment 2<sup>3</sup>.
4. The names and brief resumes 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 seal to the project deliverables.
5. Responses to the following specific questions:
  - a. Does your company employ a Pennsylvania-licensed Professional Geologist that is designated as the proposed project manager? How many years of experience does this person have?
  - b. How many Chapter 245 projects is your company currently consultant for in the Southwestern Region of Pennsylvania? Please list up to ten projects.
  - c. How many Chapter 245 projects has your company and/or the proposed Pennsylvania-licensed Professional Geologist worked on in the Southwestern Region of Pennsylvania during the last five years?
  - d. How many Chapter 245 Corrective Action projects involving an approved SCR, RAP and RACR in the State has your company and/or the Pennsylvania-licensed Professional Geologist closed (i.e., obtained Relief from Liability from the PaDEP) using any standard?
  - e. How many Chapter 245 Corrective Action projects in the State has your company and/or the Pennsylvania-licensed Professional Geologist closed (i.e., obtained Relief from Liability from the PaDEP) using the Site-Specific Standard? Please list up to five. Please include concise case histories of up to two sites.
  - f. Has your firm ever been a party to a terminated USTIF-funded Fixed-Price (FP) or Pay-for-Performance (PFP) contract without attaining all of the Milestones? If so, please explain, including whether the conditions of the FP or PFP contract were met.
6. Sufficient description of subcontractor involvement by task.
7. Detailed schedule of activities for completing the proposed SOW.
8. Description of how the Solicitor, and the USTIF 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.

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<sup>3</sup> The selected bidder agrees and shall submit evidence to the Solicitor before beginning work that bidder has procured and will maintain Workers Compensation; commercial general and contractual liability; commercial automobile liability; and professional liability insurance commensurate with the level stated in the Remediation Agreement and commensurate with industry standards for the work to be performed.

9. Key assumptions made in formulating the proposed cost estimate. The use of overly narrow assumptions will negatively impact the bid.
10. Exceptions or special conditions applicable to the proposed SOW.
11. Quotations from major subcontractors.

#### **F. MANDATORY SITE VISIT**

**THERE WILL BE A MANDATORY SITE MEETING ON FEBRUARY 20, 2013, STARTING AT 11:00 AM.** The Solicitor, the Technical Contact, or their designee(s) will be at the site between 11:00 am AND 1:00 pm to answer questions and conduct a Site tour for one participant per firm. This meeting is mandatory for all bidders – no exceptions. This meeting will allow each bidding firm to inspect the Site and evaluate site conditions. **A CONFIRMATION OF YOUR INTENT TO ATTEND THIS MEETING IS REQUIRED TO BE PROVIDED TO THE TECHNICAL CONTACT VIA E-MAIL BY FEBRUARY 15, 2013, WITH THE SUBJECT “STOP 22 2005-123(F) – SITE MEETING ATTENDANCE CONFIRMATION”.** The name and contact information of the company participant should be included in the body of the e-mail.