

COMPETITIVE FIXED-PRICE BID SOLICITATION

SUPPLEMENTAL SITE CHARACTERIZATION AND REMEDIAL FEASIBILITY / PILOT TESTING, INTERIM REMEDIAL ACTIONS, SITE REMEDICATION, ATTAINMENT DEMONSTRATIONS, RACR PREPARATION AND SITE RESTORATION

SANTIAGO DISTRIBUTING COMPANY, INC.
8175 STEUBENVILLE PIKE
IMPERIAL, ALLEGHENY COUNTY, PENNSYLVANIA 15126

PADEP FACILITY ID #02-15432 PAUSTIF CLAIM #2011-0036(F)

December 6, 2012

This “Bid to Result”¹ Request for Bid (RFB) Solicitation has been issued by the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF or “Fund”) on behalf of the Claimant, Santiago Distributing Company, Inc. (“Santiago facility” or “Santiago property”), that hereafter is referred to as “Solicitor”. The Santiago facility is located at 8175 Steubenville Pike in Imperial, Allegheny County, Pennsylvania and currently supports active beverage distribution operations. Figure 1 depicts the location of the Santiago facility on a 7.5-minute USGS topographic quadrangle and Figure 2 presents a current site plan.² In general, this RFB solicits a “to-closure” quote and scope of work (SOW) that involves activities leading up to, and including, a successful demonstration of attaining the Pennsylvania Department of Environmental Protection (PADEP) Statewide Health Standards (SHS) and securing a PADEP Relief of Liability (ROL) followed by site restoration.

More specifically, the Solicitor has elected to pursue site environmental closure under Pennsylvania’s storage tank rules and regulations based on attaining the PADEP Act 2 SHS Medium Specific Concentrations (MSCs) for a used aquifer in a residential setting for soil and groundwater. The successful bidder will be expected to achieve these site closure objectives and secure a ROL under PADEP Act 2 regulations.

For this “Bid to Result” RFB, the Solicitor requests a written approach SOW, schedule and firm fixed-price bid for achieving the RFB Act 2 closure objective via the outlined work steps (Milestones A through H). All work shall be performed in accordance with applicable PADEP rules, regulations, directives, and guidance. Milestones A through H will be embodied in a Fixed-Price Agreement (see Attachment 3) to be executed by the Solicitor and the selected consultant. Although not a party to the Agreement, the Fund will reimburse 100 percent of the reasonable, necessary and appropriate costs, not to exceed claim limits, referenced in the Milestone Payment Schedule specified in Section 5 below and as incorporated into the signed Fixed-Price Agreement. The RFB milestones are listed below and are described in Section 4.

- Milestone A. Quarterly Groundwater Monitoring, Sampling and Reporting;
- Milestone B. Continued Interim Remedial Actions;
- Milestone C. Supplemental Site Characterization Activities and Reporting;
- Milestone D. Implementation of Remedial Solution;

¹ “Bid to Result” solicitations identify task goals and rely on the bidders to provide a higher level of detail on how they will achieve the goal. The outcome of this type of solicitation is a performance-oriented contract under which payment is based on actual achievement of task goals. In reviewing the quality of bids submitted under Bid to Results solicitations, there is an increased emphasis is placed on technical approach and reduced emphasis on cost (e.g., as compared to bids for “Defined Work” RFBs).

² Figures referenced in this RFB (1, 2 and 3) are provided in Attachment 4.

- Milestone E. Soil Attainment Demonstration;
- Milestone F. Groundwater Attainment Demonstration;
- Milestone G. Preparation and Submittal of a Draft and Final Remedial Action Completion Report;
and
- Milestone H. Site Restoration.

Please note that a bidder's response to this RFB Solicitation Package means **bidder has accepted all the contractual terms and SOW requirements, including any stated schedule deadlines, unless explicitly stated to the contrary its bid response.** However, each bidder is still expected to describe its approach to completing the SOW in full and in detail.

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. Bid responses will only be accepted from those firms who attended the mandatory pre-bid site meeting (see Section 7). 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 #2011-0036 (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 Friday, January 18, 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, the Fund's third party administrator, ICF's office is closed on the bid response due date, the deadline for submission will automatically be extended to the next business day on which the office is open. The Fund's third party administrator, ICF, may notify all firms who attended the mandatory site meeting of an extended due date. The hour for submission of bid responses shall remain the same. **Submitted bid responses are subject to Pennsylvania Right-to-Know Law.**

Bids will be considered individually in a manner consistent with the evaluation process described in the PAUSTIF Competitive Bidding Fact Sheet, which can be downloaded from the PAUSTIF website (see <http://www.insurance.pa.gov>). Among other factors, the bid evaluation will consider total bid cost, schedule, discussion of technical approach, qualifications, and contract terms and conditions. Technical approach and total bid costs will be the most heavily weighted criteria in the evaluation. Key technical considerations for the bid evaluation are expected to include, but are not necessarily limited to, indications of how well the bidder has:

- Reviewed and understood the historical site documentation.
- Assessed the historical site documentation and has proposed a technically sound and justifiable SOW for completing the supplemental site characterization activities and/or remedial feasibility testing work.
- Considered, developed and proposed a reasonable, necessary and appropriate plan for site remediation that will achieve site closure under the SHS in an efficient and cost-effective manner.
- Instilled confidence that it will be able to demonstrate attainment of a SHS cleanup and obtain a PADEP ROL for this site.
- Addressed all requirements of Milestones A through H, including the requirement to prepare, submit and gain PADEP approval of a RACR.

- Designed a project approach and schedule that continually keeps the project goal in mind throughout.

While the Technical Contact will assist ICF, PAUSTIF, and the Solicitor in evaluating the bid responses, it is the Solicitor who will ultimately select the consultant with whom it will negotiate a mutually-agreeable remediation agreement. The Technical Contact will also assist the Solicitor in communicating its choice of the successful bidder. Notification of bid selection will likely occur within six (6) weeks after receiving the bids.

1. ICF, SOLICITOR, AND TECHNICAL CONTACT INFORMATION

<u>ICF International</u>	<u>Solicitor</u>	<u>Technical Contact</u>
Ms. Bonnie Mackewicz ICF International 4000 Vine Street Middletown, PA 17057	Santiago Distributing Company, Inc. 8175 Steubenville Pike Imperial, PA 15126	Mr. Robert D. Breakwell, P.G. Excalibur Group, LLC 1193 State Road Monessen, PA 15062 rbreakwell@excaliburgrpllc.com

Please note that the Technical Contact is the single point of contact regarding this RFB. Questions regarding this RFB and the associated site conditions must be directed **in writing only** to the Technical Contact, not to the Solicitor or USTIF. Bidder questions must be received no later than five (5) calendar days prior to the due date for the bid. Bidders shall not contact or discuss this RFB with the Solicitor, USTIF, ICF, or the PADEP unless approved by the Technical Contact. However, this RFB may be discussed with subcontractors and vendors to the extent required for preparing a responsive bid. If a bidder has specific questions for the PADEP, such questions shall be submitted only to the Technical Contact, who will forward the questions to PADEP. The PADEP may choose not to reply to questions it receives, or may not reply in time for its response to be beneficial.

Please note that unless a bidder is able to demonstrate its question is proprietary in nature, all questions and responses exchanged before, during, and after the mandatory pre-bid site meeting will be provided to all bidders on a non-attributable basis. A bidder must specify any questions it regards as proprietary at the time it submits these questions to the Technical Contact. If said question(s) is (are) determined to be non-proprietary by the Solicitor and the Technical Contact, the bidder will be given the option of withdrawing its question(s) before it is answered and a response distributed.

2. HISTORICAL AND BACKGROUND DOCUMENTS

Attachment 1 of this RFB contains several historical and background documents provided to familiarize the bidder with previous and current site conditions, UST removal activities, the methods and results from site characterization efforts completed to date, and the ongoing interim remedial actions. These documents consist of the following:

- Attachment 1a – UST Closure Report, Letterle & Associates, LLC, March 25, 2011;
- Attachment 1b – Environmental Site Characterization Report (SCR), Letterle & Associates, LLC, April 11, 2012;
- Attachment 1c – Remedial Action Plan (RAP), Letterle & Associates, LLC, May 21, 2012;

- Attachment 1d – Additional figures for May 21, 2012 RAP;
- Attachment 1e – PADEP SCR / RAP review letter, July 24, 2012; and
- Attachment 1f – Historical groundwater gauging, LNAPL recovery and groundwater analytical data through third quarter 2012.

3. GENERAL SITE BACKGROUND AND DESCRIPTION

General Site Features and Site History

The Santiago facility is located at 8175 Steubenville Pike in Imperial, Allegheny County, Pennsylvania (Figure 1) and currently supports beverage distribution operations. Existing features on this approximate 3.3-acre parcel consist of a single-story, slab-on grade concrete block office building attached to a single-story concrete block and aluminum-sided warehouse (also believed to be slab-on grade). The office and warehouse buildings are located in the south-central portion of the property and reportedly were constructed sometime in the 1960s when facility operations began. Twenty-one (21) groundwater monitoring wells (MW-1 through MW-21) have been installed on- and off-of the Santiago property, one recovery well (RW-1) was completed near the former unleaded gasoline underground storage tank (UST) cavity for pilot testing purposes, and two (2) soil vapor monitoring points (VP-1 and VP-2) exist near the north side of the office building. The groundwater monitoring wells, recovery well, and soil vapor monitoring points were installed by the current consultant of record, Letterle & Associates, Inc. (Letterle), during several phases of site characterization work and remedial pilot testing activities beginning in August 2011. Asphalt, concrete and top soil cover the ground surface at the Santiago facility. Key on- and off-property features are depicted in Figure 2 (Environmental Site Plan).

The Santiago property is serviced by public utilities including municipal water (Western Allegheny County Municipal Authority[WACMA]), storm sewers (North Fayette Township), telephone (Verizon), electricity (West Penn Power / Allegheny Power Company), and natural gas (Columbia Gas). The facility currently utilizes a septic system.³ The main natural gas line is located parallel to and beneath the southern berm of Steubenville Pike and laterals enter the property structures from two locations: at the northeast side of the office building and at the northeast corner of the warehouse building. The municipal water line extends parallel to and beneath the northern berm of Steubenville Pike, crosses underneath the road, and enters the office building at the northeast side. Storm drain catch basins are located at the northern edge of the facility parking lot and at the southern edge of Steubenville Pike north of the warehouse building. The storm sewer likely parallels Steubenville Pike where storm water flows underground toward the east-southeast. Overhead electric and telephone lines run parallel to Steubenville Pike and enter the Santiago property from the north. The locations of buried and overhead utilities are depicted in Figure 3 (Generalized Site Plan).

Surrounding land use consists of mixed commercial, residential and undeveloped properties. To the north and northwest of the Santiago property beyond Steubenville Pike are private residences with basements; to the northeast across Steubenville Pike is undeveloped woodland; to the east beyond Kelso Road is a commercial structure with basement (North Star Pizza); to the southeast, south and southwest is a vegetated hillside and U.S. Route 22; and to the west is a private residence with basement.

History of Facility Petroleum Storage and Dispensing Operations

In November 1987, one 8,000-gallon unleaded gasoline UST (Tank #001) along with an overlying single product dispenser and related piping were installed to distribute fuel to Santiago's delivery vehicles. The

³ The location of the septic tank is currently unknown.

UST was emptied in December 2010 and the tank, dispenser and piping were closed and removed from the property on 3/24/11. The UST and dispenser were formerly located north of the office building near Steubenville Pike (**Figures 2 and 3**). There are currently no known UST systems on the Santiago property.⁴

During removal of the UST system, the steel tank was observed to be in poor condition with substantial corrosion and deep pitting along the bottom 1/3 of the tank. After the UST system was removed, three closure soil samples were collected from the base of the excavation at approximately 12 feet below grade (ft-bg) and submitted for laboratory analysis of the PADEP post-March 2008 short list of unleaded gasoline parameters. The samples were collected near each end and at the center of the former tank footprint and were designated as TC-1/West/12ft, TC-1/Center/12ft and TC-1/East/12ft. Analytical results from the UST closure soil samples indicated exceedances of the PADEP SHS MSCs⁵ for benzene (17,700 micrograms per kilogram [ug/kg]), toluene (171,000 ug/kg), 1,2,4-trimethylbenzene ([TMB] 427,000 ug/kg) and 1,3,5-TMB (140,000 ug/kg) in sample TC-1/Center/12 ft and for 1,3,5-TMB (3,700 ug/kg) in soil sample TC-1/West/12 ft. No target unleaded gasoline parameters exceeded the SHS MSCs in soil sample TC-1/East/12ft. Note that **the excavation was backfilled following sample collection and over-excavation of these soil impacts was not completed.**⁶ The most likely source for the petroleum-impacted soil was identified as an approximate 7 to 8 millimeter diameter hole centrally located in the bottom 1/3 of the steel tank shell. The depth to weathered bedrock in the UST cavity was reported as 12 ft-bg (base of excavation) and no groundwater was observed during the UST system removal. The PADEP was verbally notified of a reportable release on 3/25/11 and written notification was provided to the PADEP on 4/6/11. The 3/25/11 UST Closure Report (Attachment 1a) prepared by Letterle is provided amongst the documents contained in Attachment 1 of this RFB.

In response to the soil impacts observed during the UST system closure, the Solicitor retained Letterle's services in April 2011 to develop and implement a plan for site characterization inclusive of interim remedial actions, remedial feasibility pilot testing and an assessment of remedial alternatives. Letterle initiated site characterization activities in August 2011 that generally included on- and off-property soil and groundwater investigations; a soil gas study; aquifer characterization testing; a geophysical survey; professional surveying of facility and environmental features; contaminant fate & transport modeling; and an exposure pathway analysis. In addition to the above, a sensitive receptor survey had been completed earlier in March 2011. The site investigations, as well as the interim remedial actions, remedial pilot testing and evaluation of remedial alternatives, were documented in Letterle's 4/11/12 SCR (Attachment 1b). After issuing the SCR, Letterle submitted a RAP to the PADEP on 5/21/12 that provided a site cleanup strategy designed to address the on-property soil impacts and on- and off-property groundwater impacts and achieve site closure. A copy of the RAP is provided in Attachment 1c with additional RAP figures provided in Attachment 1d. The PADEP unconditionally approved the SCR and RAP in a letter dated 7/24/12 (Attachment 1e). A brief summary of key information from the SCR and RAP is provided in the following sections. Bidders are referred to the SCR and RAP in Attachment 1 for additional information.

⁴ In addition to the unleaded gasoline UST, one 1,000-gallon diesel fuel aboveground storage tank (AST) was installed in June 2005 that was owned by Bolea Oil Company. On 9/27/10, the diesel fuel AST was removed from the property.

⁵ The Soil to Groundwater MSCs for a used aquifer in a residential setting (unsaturated soil) as selected by the Solicitor for site closure.

⁶ According to the 3/25/11 UST Closure Report, the silty clay backfill removed from the excavation was returned to the excavation once the UST closure samples were collected. Reportedly, this backfill was not impacted and soil contamination was observed only near the base of the excavation after the tank had been removed.

Sensitive Receptor Survey

Letterle performed a sensitive receptor survey within a 2,500 ft radius of the Santiago property to evaluate potential receptors in the area. In general, the survey included a review of the surrounding land use, an assessment of underground conduits and utilities, and an investigation of groundwater use. As previously mentioned, surrounding land use is primarily residential / commercial and private residences with basements exist to the north, northwest and west of the Santiago facility and a commercial establishment with basement is present to the east. Regarding surface water, an unnamed tributary to the South Fork of Montour Run is located approximately 1,400 feet north-northwest of the Santiago property. Underground conduits and utilities do not appear to pose a concern for dissolved-phase contaminant migration given that the depth to groundwater beneath the property is greater than 20 feet below grade (ft-bg). Note, however, that the migration of vapor-phase contaminants along utility trenching may be a concern based on the proximity of the water and gas lines to the UST cavity source area (apparently within 30 ft) where soil impacts substantially above the SHS MSCs still exist.

The groundwater use assessment included reviewing the PADEP's PaGWIS database and contacting local providers of municipal water and sanitary sewage services. According to the PaGWIS database search, one private water supply well was identified approximately 1,850 feet southeast of the Santiago facility. Reportedly, this well is used by a church and is approximately 95 feet deep. Based on distance and groundwater movement beneath the Santiago facility (as discussed below), the SCR concluded that site impacts are not expected to affect this well. According to the WACMA, the public water supply is provided from a combination of three sources including two treatment facilities on the Monongahela River (Pennsylvania American Water Company), several wells intercepting an aquifer below the Ohio River (Moon Township Municipal Authority), and water extracted from the Ohio River (Robinson Township Municipal Authority). Also, based on an interview conducted by Letterle with a WACMA representative, there are no ordinances prohibiting the installation of water wells or requiring a connection to the public water supply, although public water is available to all properties within about 1,500 feet of the Santiago facility. The WACMA representative also indicated that there is a private well used at 934 Santiago Road located approximately 1,200 feet to the north and that the residences located across Steubenville Pike from the Santiago facility are connected to the public water supply.

Overview of Site Geology and Hydrogeology

In general, overburden deposits beneath the extensive site study area range in thickness from approximately 0.5 (MW-12 and MW-21) to 33 (MW-19) feet. Overburden materials encountered within soil / well borings completed in the vicinity of the former UST cavity and near the eastern and western property boundaries consist of fill (gravel, cobbles and slag in a clay / silt / silty clay matrix) that is underlain by a natural silty clay deposit containing minor clay, silt, sandy clay and sand with varying amounts of weathered rock fragments. At the soil / well boring locations where fill materials are not present, the natural silty clay deposit is present beginning at the ground surface (or immediately below the concrete or asphalt surface cover). Beneath the overburden is weathered bedrock consisting primarily of siltstone with some shale, limestone and sandstone that belongs to the Pennsylvanian Age Monongahela Group. The weathered bedrock becomes competent at depths ranging from approximately 8.5 (MW-12) to 26 (RW-1) ft-bg. Bedrock in the vicinity of the Santiago facility is reported to dip very gently to the southwest. In addition to drilling information, note that Letterle also conducted a very low frequency (VLF) geophysical survey of the Santiago property and surrounding parcels to determine spacing and orientation of bedrock fractures to provide information on preferential contaminant migration pathways. Bidders are directed to the SCR in Attachment 1b for more details on the VLF survey methods and results.

The Santiago facility is located on a local topographic high that influences ground movement in the shallow bedrock aquifer and results in a radial groundwater flow pattern beneath the facility and surrounding properties. The depth to groundwater beneath the site has generally been measured within

the range of 19 to 44 ft-bg and occurs within the weathered to competent bedrock. Historical groundwater gauging data is presented in Attachment 1f. The average horizontal hydraulic gradient for the bedrock aquifer was calculated by Letterle to be approximately 0.16 ft/ft. Based on slug testing completed within wells MW-1, MW-2, MW-3 and MW-8 and an 8-hour pumping test conducted within well RW-1, the average hydraulic conductivity for the shallow bedrock aquifer was estimated to range from approximately 5.9 ft/day (slug testing) to 7.5 ft/day (pumping test). From the pumping test in RW-1, Letterle also estimated other hydraulic parameters for the bedrock aquifer including average transmissivity (21 m²/day), average storativity (0.29) and average linear groundwater velocity (10 ft/day). Bidders should also note that the potential exists for low well yields in the vicinity of the Santiago facility because of aquifer dewatering from coal mining operations.

Site Remediation Goal

The Solicitor intends to pursue site closure for unleaded gasoline constituents in soil and groundwater under the PADEP Act 2 SHS MSCs for a used aquifer in a residential setting.

Soil Quality

A total of 24 on- and off-property soil borings were advanced during the site characterization activities which included borings SB-1 through SB-24. Of these soil borings, SB-1 through SB-14, SB-17 through SB-20, and SB-22 through SB-24 were converted into groundwater monitoring wells MW-1 through MW-21, borings SB-15 and SB-16 were completed as soil gas monitoring points VP-1 and VP-2, and boring SB-21 was converted into recovery well RW-1. Up to three soil samples were collected from each soil boring location and submitted for laboratory analysis based on organic vapor screening data, evidence of petroleum staining and/or odors or the need to confirm "clean" conditions, as appropriate. All soil samples were analyzed for the PADEP post-March 2008 short-list of unleaded gasoline parameters. Soil analytical results were compared to the PADEP Act 2 Soil to Groundwater SHS MSCs for a used aquifer in a residential setting (unsaturated soil).

Soil analytical results indicate that target unleaded gasoline compounds were identified in the majority of soil samples obtained from borings SB-1 through SB-24. The concentrations of these compounds, however, were significantly below the aforementioned PADEP Act 2 standards. Therefore, only the two previously described UST closure soil samples collected from the base of the excavation (TC-1/Center/12 ft and TC-1/West/12 ft) contained levels of unleaded gasoline compounds that exceeded the applicable standards. Again, note that this soil contamination remains at the base of the UST cavity since over-excavation to remove this petroleum impacted soil was not performed prior to backfilling. Given that the soil samples obtained from borings SB-1, SB-2, SB-3 and SB-21 completed adjacent to, or near, the former tank cavity contained levels of unleaded gasoline constituents substantially below the applicable standards, it appears that soil impacts exceeding the SHS have been laterally delineated and are limited to the former UST cavity.

Groundwater Quality

Groundwater quality has been assessed through a network of 22 monitoring and recovery wells including on-property wells MW-1 through MW-8, MW-11 through MW-15, MW-17, MW-18 and RW-1, and off-property wells MW-9, MW-10, MW-16, MW-19, MW-20 and MW-21. The wells range in depth from approximately 30 to 60 ft-bg and intersect the shallow bedrock aquifer. Boring logs and well construction details are contained in the SCR provided in Attachment 1b.

Currently, five groundwater monitoring / sampling events have been completed which include the August, September and November 2011 events and the more recent January and August 2012 events. These events have provided from one to five sets of groundwater analytical data for each well, depending on the

date the well was installed, accessibility at the time of sampling, presence of SPH and well volume.⁷ As would be expected, the available groundwater analytical data indicate that the most impacted wells are located adjacent to, or in the vicinity of, the former unleaded gasoline UST cavity (MW-1 through MW-8 and MW-11, MW-12 and MW-13). With the exception of cumene, samples from these wells have historically contained all, or a significant number of the target unleaded gasoline analytes at concentrations exceeding the PADEP Act 2 SHS MSCs for a used aquifer in a residential setting.

The primary constituents of concern in groundwater are benzene, 1,2,4-TMB and 1,3,5-TMB. According to the current August 2012 groundwater analytical dataset, these compounds have respectively attained concentrations of up to 4,740 ug/l (benzene in MW-2), 2,060 ug/l (1,2,4-TMB in MW-8) and 551 ug/l (1,3,5-TMB in MW-4). The isoconcentration maps for January 2012 provided in the SCR indicate that the benzene, 1,2,4-TMB and 1,3,5-TMB dissolved-phase plumes are the most widespread and that the distribution / migration of dissolved-phase contaminants is consistent with the radial groundwater flow pattern. More specifically, dissolved concentrations of benzene exceeding the SHS MSC in January 2012 had reached on-property wells MW-15 (5.6 ug/l) and MW-18 (16.4 ug/l) that are located at distance to the east and west of the former UST source area, respectively. The January 2012 groundwater data also indicate that benzene exceeded the applicable standard in off-property well MW-9 (101 ug/l) located on a residential parcel north of the source area and is not delineated beyond this well. The extent of dissolved benzene impacts exceeding the SHS MSC in the August 2012 data are similar except that the benzene concentration in MW-15 was below the SHS MSC (1.1 ug/l). The extent and configuration of the TMB plumes as depicted in the January 2012 isoconcentration maps are comparable to benzene and concentrations of 1,2,4-TMB and 1,3,5-TMB exceeded the applicable standard in well MW-18 located near the western property boundary at concentrations of 125 ug/l and 47.1 ug/l, respectively. It is possible that TMBs exceeding the SHS MSCs extend beneath the adjacent residential property to the west and have not been fully delineated in this direction. Also, 1,2,4-TMB was present in well MW-9 on the adjacent residential property to the north at a concentration of 15 ug/l which is equivalent to the applicable SHS MSC. Although the concentration of 1,2,4-TMB in MW-9 increased slightly during the August 2012 sampling event, levels of 1,2,4- and 1,3,5-TMB in MW-18 decreased. The dissolved-phase toluene, ethylbenzene, xylenes, MTBE and naphthalene plumes appear to be primarily limited to the Santiago property but could extend beneath Steubenville Pike to the north.

The available groundwater analytical database through the third quarter 2012 is provided in Attachment 1f. The program of quarterly groundwater monitoring, sampling and reporting shall be continued under this RFB (Milestone A).

Aside from the target unleaded gasoline constituents, monitored natural attenuation (MNA) parameters were also analyzed and field-measured to support the off-property MNA remedy as proposed in the RAP and discussed later in this RFB. MNA parameters analyzed in the laboratory included alkalinity, nitrate, sulfate, ferrous iron and manganese. Field-measured parameters included temperature, dissolved oxygen, pH, ORP, conductivity and TDS. Ranges in values for these MNA parameters are contained in the SCR (Attachment 1b).

Soil Gas

A soil gas study was completed by Letterle that included installing two soil gas monitoring points, VP-1 and VP-2, near the northern side of the facility office building (i.e., between the office building and the UST source area)⁸, and completing two soil gas sampling events in December 2011 and February 2012. Soil gas samples were analyzed for the PADEP post-March 2008 short list of unleaded gasoline

⁷ Separate-phase hydrocarbons (SPH) were identified in well RW-1 following its installation in January 2012. Consequently, groundwater samples have not been collected from RW-1 and no dissolved data exist for this well. The extent of SPH and ongoing recovery efforts are discussed later in this section.

⁸ Soil vapor points were completed at a depth of approximately 5 ft-bg.

parameters. Soil gas analytical results produced from these two events indicate that no vapor-phase constituents were identified at or above the laboratory method detection limits with the exception of toluene. Vapor-phase toluene concentrations detected in VP-1 and VP-2 during both sampling events were substantially below the residential MSC_{SG} .

Separate-Phase Hydrocarbons and Interim Remedial Actions

Measureable thicknesses of separate phase hydrocarbons (SPH) have been reported for wells MW-1, MW-3 and RW-1 located adjacent to the former UST cavity. Historically, SPH has been measured at thicknesses ranging from 0.01 to 0.10 ft in MW-1, 0.01 to 0.28 ft in MW-3, and 0.03 to 0.29 ft in RW-1. Most recently, in August 2012, SPH thicknesses measured in these three wells were 0.00 ft (MW-1), 0.00 ft (MW-3) and 0.06 ft (RW-1). The SPH occurs on the surface of the shallow bedrock aquifer within both weathered and competent bedrock.

Letterle initiated SPH recovery efforts in August 2011 as an interim remedial action and, through August 2012, had removed a total of approximately 10.8 gallons of a SPH / groundwater mix. Although the SCR indicates that SPH recovery has been completed via absorbent socks, the RAP and SPH summary data indicate that bailing methods have also been used to remove SPH from these wells. The program of monthly SPH removal from wells MW-1, MW-3 and RW-1 will be continued under this RFB (Milestone B). Historical SPH gauging and removal data is provided in Attachment 1f.

Exposure Pathway Assessment

The SCR contains an exposure pathway assessment for which Letterle evaluated the direct contact pathways for soil, groundwater and surface water and the indirect contact pathways for soil and groundwater. Based on the assessment, potential exposure pathways to human receptors were reported to exist for inhalation by indirect contact with groundwater and for ingestion and dermal absorption by direct contact with groundwater. Because the regulated substance released at the Santiago facility was unleaded gasoline, and only petroleum products were handled at the site, an ecological assessment was not necessary.

As part of the exposure pathway assessment, numerical contaminant fate and transport modeling was performed using MODFLOW and MT3DMS. As reported in the SCR, model predictions included the following:

- The benzene plume originating near well MW-2, under steady state conditions, will migrate more than 250 ft beyond the property boundary in multiple directions at concentrations exceeding the SHS MSC after 180 days.
- The benzene plume will continue to migrate more than 250 ft beyond the property boundary to the northeast after a period of 30 years.
- After 30 years, benzene concentrations in point-of-compliance (POC) monitoring wells MW-11 and MW-18 will be 112 ug/l and 12/ug/l, respectively.
- Off-property monitoring well MW-10 will have a benzene concentration of 160 ug/l after 30 years.

Proposed Site Remedial Approach

An assessment of various remedial alternatives was completed by Letterle as summarized in the SCR. The remedial alternatives evaluated for potential site application included total phase extraction (TPE), vacuum enhanced groundwater extraction (VEGE), limited soil excavation and MNA. Based on the evaluation, the RAP proposes an on-property remedy consisting of the limited excavation of excessively

impacted source soil from the former UST cavity and installing / operating a VEGE system. Remedial feasibility testing was performed to evaluate the potential effectiveness of a VEGE system as described in the following section. To address off-property impacts, the RAP proposes a program of MNA sampling and analyses.⁹ This remedial approach was considered by Letterle to represent the most technically feasible and cost effective means to achieve site cleanup in a timely manner. As previously mentioned, the RAP was unconditionally approved in a letter issued by the PADEP on 7/24/12. Bidders are directed to the 5/21/12 RAP in Attachment 1c, with additional figures provided in Attachment 1d, for details on the proposed combination soil excavation / VEGE / MNA site remedy. Note that for this RFB solicitation, a bidder may elect to propose implementing the RAP "as-is", may elect to retain but modify certain technical aspects of the site remedy proposed in the RAP, or may choose to propose an alternative site remedy it feels may be more efficient and cost effective to achieve a SHS site closure.

Remedial Feasibility Pilot Testing

In February 2012, Letterle completed remedial feasibility pilot testing to assess the applicability of VEGE technology to remediate hydrocarbon-impacted groundwater and soil and to further evaluate aquifer parameters. The pilot testing involved the simultaneous recovery of soil vapor and groundwater from extraction well RW-1 while drawdown in the shallow bedrock aquifer and induced vacuum was measured and recorded in the surrounding monitoring wells. As reported in the SCR, VEGE pilot test results generally indicate the following:

- The average aquifer yield at RW-1 was 3.0 gallons per minute (gpm) and aquifer drawdown was observed in numerous observation wells up to a distance of approximately 270 ft from the extraction well (0.10 ft of drawdown).
- A groundwater capture zone with a radius of approximately 78 ft was calculated using the groundwater drawdown measurements.
- Significant vacuum influence (>0.10 in. H₂O) was observed in five of the monitoring wells during extraction from RW-1 with the farthest vacuum influence measured approximately 115 ft from RW-1 (0.16 in. Hg).

According to the pilot test results, Letterle concluded that a low vacuum VEGE system may be an effective and aggressive remedial technology to reduce adsorbed and dissolved phase hydrocarbons.

Regarding the limited soil excavation proposed in the RAP, the excessive soil impacts at the base of the former UST cavity (approximately 12 ft-bg) appear to occur within highly weathered siltstone (and / or possibly shale) bedrock that seems to be excavatable based on the ability to collect split-spoon soil samples at depths ranging from approximately 17 to 21 ft-bg within the borings for adjacent wells MW-1, MW-2 and MW-3. The depth to weathered bedrock in these well borings was reported as 6.5, 11 and 11 ft-bg, respectively. Letterle estimated that about 78 yd³ (approximately 114 tons) of petroleum impacted soil exceeding the applicable SHS MSCs exists beneath the western and central portions of the former UST cavity and that the soil excavation would be no more than 13-14 ft deep. Limited soil excavation is discussed in more detail under Milestone D.

Additional information on the site and surrounding area is included in the background documents provided as Attachments 1a through 1f which are posted with this RFB solicitation on the PAUSTIF web site.¹⁰ Each bidder should review this historical information carefully along with the information contained in this section. If there is any conflict between the information provided in this RFB and the source

⁹ TPE was not retained as an applicable remedial technology because the depth to groundwater beneath the site is generally greater than 25 ft-bg.

¹⁰ The best scanned-in version of each document available has been provided.

documents, the bidder should defer to the source documents. The Solicitor does not represent nor provide any warranty that the information provided with and in this RFB Solicitation is necessarily complete or sufficient for completing the identified scope of work. Therefore, **each bidder should rely and base its bid upon its own evaluation of the information provided.** Each bid must include and describe the bidder's conceptual site model as it pertains and applies to the proposed scope of work.

4. SCOPE OF WORK OBJECTIVES

The Solicitor seeks competitive, fixed-price bids and SOW to complete the eight (8) milestones outlined below and for successfully attaining the Solicitor's selected remediation goals for soil and groundwater. Consequently, each bidder is identifying its proposed SOW to "close" this Site under Chapter 245 consistent with PADEP Act 2 standards, and obtain an associated release of liability from the PADEP. Because this is a results-oriented remediation bid solicitation, each bid response must detail the approach and specific methods for achieving the task/milestone objectives. In other words, there is a premium on thoroughly describing the bidder's understanding of the site conditions along with the conceptual site model, and how that model relates to the bidder's proposed approach to attaining the objectives of each task/milestone. Furthermore, each bid will need to contain a higher level of project-specific details sufficient for the Solicitor and USTIF to accurately assess each bid and differentiate among them. Each bidder should keep in mind that the quality of the technical approach is emphasized with this results-oriented bid solicitation as compared to bids submitted in response to solicitations that define the work scope with greater specificity (referred to as "Defined SOW" RFBs). Conversely, while cost remains a significant factor in the evaluation of cost-to-close bids, the emphasis on cost is reduced in comparison to the evaluation of the bid for a Defined SOW RFB. At the same time, the Solicitor and USTIF recognize that each bidder may propose a unique path forward for a given site. To be deemed responsive, each bid must address in detail each of the RFB milestones, including describing the bidder's understanding of the conceptual site model and how that model relates to the bidder's proposed approach. Recommendations for changes/additions to the RFB outline shall be discussed, quantified, and priced separately; however, **failure to bid the RFB milestone format "as is" may result in a bid not being considered.**

Subsequent to bid award, any modification of the selected consultant's SOW for Milestones A through H will require prior written approval by the Solicitor **and PAUSTIF** through its third-party administrator, and may require PADEP pre-approval.

The selected consultant's approach to completing its SOW shall be in accordance with generally accepted industry standards / practices and all applicable federal, state, and local rules, guidance, directives, and regulations, including (but not limited to) satisfying the requirements of the following:

- *The Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended);*
- *Pennsylvania Code, Title 25, Chapter 245 - Administration of the Storage Tank Spill Prevention Program;*
- *The Land Recycling and Environmental Remediation Standards Act of 1995 (Act 2, as amended);*
- *Pennsylvania Code, Chapter 250 - Administration of Land Recycling Program;*
- *Pennsylvania's Underground Utility Line Protection Law, Act 287 of 1974 (as amended by Act 121 of 2008); and*
- *Pennsylvania's Engineer, Land Surveyor and Geologist Registration Law, P.L. 913, No. 367 Cl. 63.*

Each bid must provide the Solicitor and USTIF with a schedule that begins with execution of the Fixed-Price Agreement and ends with site closure under Pennsylvania Act 2 (and the associated ROL from PADEP). Schedules must also indicate the start and end of each of the milestones specified below, and

indicate the timing of all proposed key milestone activities. The project schedule must also specify no less than two (2) weeks for the Solicitor and USTIF to review and comment on the report generated under Milestone C that could include a SCR Addendum (SCRA), Amended RAP (RAPA) or Revised RAP (RRAP). The Solicitor and USTIF will also require a minimum of two (2) weeks to review and comment on the Remedial Action Completion Report (RACR) to be produced under Milestone G. As appropriate, bid schedules must include time to address any comments received from the PADEP on the aforementioned reports including the RACR.

During completion of the milestone objectives specified below and throughout implementation of the project, the selected consultant shall:

- Conduct necessary, reasonable, and appropriate project planning and management activities until the project (i.e., Fixed-Price Agreement) is completed. Such activities may include Solicitor communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities (e.g., utility location, etc.). Project planning and management activities will also include preparing and implementing plans for Health and Safety, Waste Management, Field Sampling/Analysis, and/or other plans that may be required by regulations or that may be necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements.¹¹ Project planning and management shall include identifying and taking appropriate safety precautions to not disturb site utilities, including, but not limited to, contacting Pennsylvania One Call as required prior to any ground-invasive work. Project management costs shall be included in each bidder's pricing to complete all the milestones specified below, as appropriate.
- The successful bidder shall be responsible for coordinating, managing and completing the proper management, characterization, handling, treatment, and/or disposal of all investigation derivative wastes, including soil/rock cuttings, purge water, development water and pumping test water generated during the implementation of this Scope of Work in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

All investigation derived wastes shall be handled and disposed of per PADEP's Southwest Regional Office guidance. Investigation derived wastes include personal protective equipment (PPE), disposable equipment, soil and drill cuttings and groundwater obtained through monitoring well development and purging, as well as equipment decontamination fluids. Investigation derived wastes must be containerized in DOT-approved drums and staged on-site in a pre-determined location, pending results of laboratory analyses and selection of final disposal method(s). Each container must be labeled to indicate contents, site location and date of generation. IT IS THE SUCCESSFUL BIDDER'S RESPONSIBILITY TO CONFORM WITH CURRENT PADEP SOUTHWEST REGIONAL OFFICE GUIDANCE REQUIREMENTS.

Waste characterization and disposal documentation (e.g., manifests) shall be maintained by the successful bidder. One (1) copy of the waste characterization and disposal documentation shall be provided to PADEP, one (1) copy shall be provided to the Solicitor and one (1) copy shall

¹¹ For the purpose of this bid solicitation, bidders shall assume that negotiations to secure three (3) access agreements will be required. Should an additional access agreement, or agreements, become necessary, such additional work would be considered out-of-scope and subject to the changed conditions clause of the Fixed-Price Agreement.

be provided to the ICF representative. Waste disposal costs shall be included in the fixed-price quoted for all milestones, as appropriate.

- Be responsible for providing the Solicitor, facility operator and any third parties, as appropriate, with adequate advance notice prior to each visit to the site. The purpose of this notification is to coordinate with these entities to ensure that appropriate areas of the Santiago property and relevant adjacent properties are accessible. 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 compensation under the Fixed-Price Agreement.
- Be responsible for keeping all site monitoring wells in good condition, with each well properly sealed and locked in-between each monitoring/sampling event. The selected consultant is responsible for repairing any seals or locks that become defective during the period of this Fixed-Price Agreement at its expense. Any request for Fund reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

Milestone A – Quarterly Groundwater Monitoring, Sampling and Reporting. Under this milestone, the ongoing program of quarterly groundwater monitoring, sampling and reporting for the Santiago facility shall be continued. This milestone shall commence immediately following execution of the associated Fixed-Price Agreement and shall be discontinued with the initiation of the bidder's site remedy (Milestone D).¹² For the purpose of this RFB solicitation, bidders shall assume and provide a firm fixed-price to complete four (4) quarterly groundwater monitoring, sampling and reporting events under Milestone A. Each bidder shall provide an all-inclusive fixed unit rate per quarterly event should more or fewer than four (4) events be needed prior to initiation of the quarterly groundwater monitoring, sampling and reporting program to be conducted under Milestone D3 during implementation of the site remedy.

For the purpose of this bid solicitation, and consistent with the established quarterly groundwater monitoring / sampling program, bidders shall assume the fixed-price cost for this milestone will include collecting and analyzing groundwater samples from 21 on-and off-property monitoring wells including MW-1 through MW-21 and remedial feasibility test well RW-1 (22 wells total). During each quarterly groundwater monitoring and sampling event, the depth to groundwater and any potential separate-phase hydrocarbons (SPH) shall be gauged in all 22 existing wells and prior to purging any of the wells for sample collection.¹³ Groundwater level measurements obtained from the site wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient for the shallow bedrock water table aquifer. Each of the 22 site wells shall then be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual, any other applicable PADEP guidance, and standard industry practices. For consistency with the groundwater purging and sample collection methods that are currently employed at the Santiago facility, all site wells shall be purged and sampled using low-flow techniques generally conforming to those briefly described in Section 5.7 of the 4/11/12 SCR. Any well exhibiting a measurable thickness of SPH shall not be purged and sampled. Bidders shall manage equipment decontamination fluids, groundwater generated by the well purging and sampling activities, and other wastes in accordance with PADEP SWRO guidance as discussed earlier in this RFB.

Groundwater samples collected during each of the quarterly events shall be analyzed for the **post**-March 2008 PADEP short-list of unleaded gasoline parameters (inclusive of 1,2,4- and 1,3,5-TMBs) by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate quality assurance / quality control (QA/QC) samples shall also be collected during each quarterly event and analyzed for the same unleaded gasoline constituents. For the purpose of this RFB solicitation,

¹² The first quarterly event conducted under Milestone A shall be timed to continue the pre-existing sequence of quarterly groundwater monitoring events without disruption.

¹³ As previously described in Section 3 of this RFB, measurable thicknesses of SPH have historically been reported for wells MW-1, MW-3 and RW-1.

bidders shall assume collecting one trip blank sample and one blind duplicate sample (from a known impacted well) per quarterly event. In addition, each event shall include measurements for the following field parameters during the low-flow purging and sampling process: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), total dissolved solids and oxidation/reduction potential.¹⁴

The conduct and results for each groundwater monitoring and sampling event shall be documented in a Remedial Action Progress Report (RAPR) that shall be provided to the PADEP on a quarterly basis consistent with the Department's timetable for RAPR submittals.¹⁵ At a minimum, each RAPR shall contain the following elements:

- As applicable, a summary of site operations and remedial progress made during the reporting period that addresses whether or not the degree of remedial progress is reasonably "on track" to achieve a timely and cost-effective site closure.
- Tabulated groundwater gauging data collected from the monitored wells, including the depth to groundwater, groundwater elevation and thickness of any free product encountered.
- A groundwater elevation contour map developed for the shallow bedrock water table aquifer that depicts a licensed professional's interpretation of groundwater movement.
- Tabulated historical quantitative groundwater analytical results, including results from the current quarter.
- The laboratory analytical report(s) for the samples collected during the current quarter.
- One site-wide isoconcentration contour map for each compound detected in groundwater at a concentration exceeding its SHS during the quarter.¹⁶
- For each well that has exhibited a SHS exceedance during the reporting period and/or during the previous year, a graphical depiction of historical key contaminant concentrations and groundwater elevations to provide an assessment of correlations between fluctuating water levels/precipitation events and contaminant concentrations. This assessment should specifically address whether observed dissolved-phase constituent concentration fluctuations may be related to changing hydrogeologic conditions or whether these fluctuations may be potentially indicative of changed conditions requiring further investigation and/or a possible change in the site closure strategy.
- For each well that has exhibited an SHS exceedance during the reporting period or previously, a graphical depiction of recent key contaminant concentration trends. Each quarter, contaminant concentration trend lines shall be calculated using the previous two-years of analytical data (as available) to be plotted on an x-y scatter plot with a logarithmic scale. The exponential trend lines shall be projected forward in time to assess the pace of or projected timeframe for remediation to achieve attainment of the selected remediation standard.
- A discussion of the data to offer an updated assessment whether these data are consistent with a stable, contracting, or expanding plume and, therefore, whether or not the plume appears to be responding to the remedial action in a manner suggestive of a timely and cost-effective site closure.
- Treatment and disposal documentation for waste generated during the reporting period.

¹⁴ Each bidder's approach to implementing Milestone A shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, and other key assumptions affecting the bid price.

¹⁵ PADEP suggests that Groundwater Monitoring Reports (GMR) be referred to as Remedial Action Progress Reports (RAPR) which are due to the PADEP on January 30, April 30, July 30, and October 30.

¹⁶ All figures included in each quarterly report (e.g., Site plan, groundwater elevation maps, dissolved plume maps, etc.) shall be available in electronic format from the Solicitor upon request.

Each RAPR shall be signed and sealed by a Professional Geologist or Professional Engineer registered in the Commonwealth of Pennsylvania. Methods and results from these quarterly groundwater monitoring and sampling events shall also be summarized in the SCR Addendum (SCRA), Amended RAP (RAPA) or Revised RAP (RRAP) generated under Milestone C and in the Remedial Action Completion Report (RACR) to be prepared under Milestone G.

Milestone B – Continued Interim Remedial Actions. Under this milestone, bidder's shall provide a firm fixed-price cost for continuing the program of SPH gauging and removal activities for wells MW-1, MW-3 and RW-1 as initiated by Letterle in August 2011. Quarterly costs shall be bid for installing an absorbent sock within each of these three wells and visiting the site on a monthly basis to conduct SPH gauging, bailing, and inspect, drain and replace the socks as necessary. Monthly visits to the site for conducting this interim remedial action shall commence immediately following execution of the Fixed-Price Agreement and shall continue until SPH has been recovered to the extent practicable from wells MW-1, MW-3 and RW-1, or until the selected consultant begins implementation of its site remedy under Milestone D (that shall consider SPH mitigation in its design, if necessary); whichever occurs first. For the purpose of this RFB solicitation, bidders shall assume that 4 quarters of monthly SPH gauging and removal will be required (12 events). Bidders shall provide a fixed unit-cost per quarter of monthly events (inclusive of absorbent socks) on the Bid Cost Tabulation Spreadsheet in Attachment 2 should more or fewer quarters be needed. Absorbent socks will be reimbursed based on a fixed unit-cost per sock that shall also be provided on the costing spreadsheet. Wastes generated during the SPH gauging and removal program (SPH / groundwater mix, spent absorbent socks and PPE) shall be managed as described previously in this section. Note that should Letterle's ongoing SPH recovery efforts being conducted during this bid solicitation result in SPH removal to the maximum extent practicable from wells MW-1, MW-3 and RW-1, then Milestone B would not be required and the selected bidder would forgo reimbursement for this Milestone. Results from this task shall be reported in the quarterly RAPRs to be prepared under Milestone A.

Milestone C – Supplemental Site Characterization Activities and Reporting. This milestone provides bidders the opportunity to identify which additional site characterization work will be completed in advance of finalizing the remedial approach design and moving ahead with its implementation. Conducting supplemental investigative activities under this milestone is mandatory. PAUSTIF will be reimbursing up to \$10,000 for supplemental site characterization and reporting costs under this milestone. Bidders are to describe what supplemental site characterization will be completed, the rationale for the work and how the derived data will be used. For purposes of bidding, and to ensure consistent cost scoring of bids, each bidder will enter exactly \$10,000 as the bid price for Milestone C in the Standard Bid Cost Spreadsheet. PAUSTIF will only reimburse up to \$10,000 of reasonable and necessary costs for those tasks actually performed. The selected bidder must provide time and material documentation in addition to supporting documentation required (in Exhibit C of the executed Remediation Agreement) to support the requested reimbursement and completion of this milestone.

Bidders may use this opportunity to: 1) confirm any elements of the site characterization completed by a previous consultant; 2) address any perceived data gaps in the existing site characterization work; 3) assist in the evaluation and determination of remedial technologies and system design; and 4) assist with refining the cleanup timeframe estimate and / or other reasons related to validating the bidder's remedial approach and design.

Supplemental work under this task may include additional environmental media sampling and analyses and / or remedial pilot testing.

As discussed earlier in Section 3, Letterle conducted remedial feasibility pilot testing in February 2012 to assess the applicability of VEGE technology for remediating hydrocarbon-impacted soil and groundwater. Based on the testing results, the PADEP-approved RAP identified VEGE as the primary site remedy in conjunction with limited soil excavation and MNA for off-property groundwater impacts. The VEGE Pilot

Test Report can be found in Appendix K of the 4/11/12 SCR (Attachment 1b). However, should a bidder wish to confirm or refine the existing pilot testing data or should a bidder wish to explore the viability of an alternative remedial technology, this milestone provides the opportunity to propose supplemental remedial feasibility pilot testing to assist in the evaluation and determination of remedial technologies and system design with the objective of ensuring an efficient and timely site closure. Milestone C activities shall be conducted as soon as possible following execution of the Fixed-Price Agreement and completed concurrent with Milestones A and B.

Each bidder shall describe in detail its scope of work for additional site characterization activities along with corresponding technical justification to support the need for each additional activity. When considering what additional site characterization activities may or may not be necessary, bidders are strongly encouraged to review Letterle's 3/25/11 UST Closure Report, 4/11/12 SCR and 5/21/12 RAP (Attachments 1a through 1d), rather than relying solely on the summary information presented in Section 3 of this RFB. As mentioned above, supplemental site characterization activities shall be initiated upon execution of the Fixed-Price Agreement and conducted concurrently with Milestones A and B.

Potential considerations regarding the need for Milestone C activities include: determination of site-specific remedial design data, confirmation that the proposed technology is technically feasible, confirmation that the proposed technology is cost-effective, and confirmation that the proposed technology will provide a timely closure of the site under PADEP Act 2.

Any and all Milestone C activities that are proposed with your firm's bid shall be accompanied by the following:

- The purpose and need for each Milestone C activity and an appropriate breakdown (Milestones C1, C2, etc.).
- A detailed scope description of each activity including the use and incorporation of any pre-existing site data.
- The timing and schedule of each activity relative to the overall project schedule.
- A description of the anticipated results of each activity and how such results may impact your proposed conceptual remedial action plan.
- For activities involving the evaluation of a remedial technology, such as a feasibility study or pilot test, bids shall describe in detail the likelihood that the resulting data will dictate a change in the conceptual remedial action plan proposed in your bid.
- Firm fixed-pricing and any appropriate unit pricing for each Milestone C activity (Milestones C1, C2, etc.) within each bidder's completed Bid Cost Tabulation Spreadsheet (Attachment 2).

The additional site characterization work under Milestone C shall be documented¹⁷ as follows:

- In a SCRA if the proposed site remedial approach will be consistent with the PADEP-approved RAP (i.e., no modifications);
- In a RAPA if the proposed site remedial approach will be generally consistent with the PADEP-approved RAP but with modifications; or
- In a RRAP should an alternative remedial approach be proposed that varies substantively from the PADEP-approved RAP.

The project schedule shall allow two (2) weeks for Solicitor and PAUSTIF review of the draft report before a final version is submitted to the PADEP. Following Solicitor / PAUSTIF review of the draft document, the selected consultant shall address any comments and submit the final report to the PADEP. The

¹⁷ In order to receive reimbursement under this task, thorough documentation of any additional site characterization activities must be provided to PAUSTIF

report shall be consistent (with regard to approach and level of effort) with the conceptual plan for remedial action provided in the selected consultant's bid and shall be signed and sealed by a Professional Geologist **and** a Professional Engineer registered in the Commonwealth of Pennsylvania. The fixed-price cost for this task must also account for addressing potential PADEP comments on a RAPA or RRAP, as applicable.

Pilot Study "Off-Ramp" / Changed Condition

The selected consultant and the Solicitor are protected from being obligated to move forward with a remedial action under Milestone D if the Milestone D proposed remedial approach is not optimal or is expected to fail based on new site characterization or pilot study data from Milestone C. While the selected bidder will be under no obligation to cancel the eventual Fixed-Price Remediation Agreement if the site characterization or pilot test results are outside the criteria or range specified in the bidder's RFB Solicitation response, the following conditions will apply:

1. With advanced Solicitor and USTIF approval, the selected bidder may elect to modify the Milestone D remediation plan and continue with the project at no additional cost; that is, for the same total fixed price found in the RFB Solicitation response, based on the remaining fixed description and price for the remaining tasks.
2. If the Solicitor or USTIF choose not to approve the selected bidder's revised plan adjusting to the new Milestone C data, the Remediation Agreement for the project will terminate.
3. Or if the selected bidder adequately demonstrates the site conditions revealed by Milestone C activities are significant and could not have reasonably been expected prior to conducting the Milestone C activities, the selected bidder may elect to not proceed and withdraw from / terminate the Remediation Agreement for the project.

Bidders shall, therefore, specify within their bids the critical criteria (if any) that will be used by Solicitor and the selected bidder to evaluate the significance of data obtained through Milestone C activities. These critical criteria shall be used to assess if the new data change the feasibility of the Milestone D proposed remedial approach. As such, and as applicable, bids shall list an upper and lower limit for each critical criterion that will define the range of acceptable results (i.e., feasibility study or pilot testing results) relevant to the proposed Milestone D remedial approach. These criteria must be measurements or calculations that could be independently measured or verified by others during testing. Based on these criteria, Exhibit A of the Fixed-Price Agreement (Attachment 3) will contain a provision allowing cancellation of the Agreement should test results (i.e., the data obtained during the implementation of Milestone C) not meet certain bidder-defined criteria bounds (ranges). Each bidder, therefore, shall explicitly specify any and all critical criteria and their associated acceptable ranges for key design elements on which the Milestone D proposed remedy depends (i.e., the critical criteria and quantified ranges of values that will make the proposed conceptual remedial action plan technically feasible, cost-effective, and timely).

For example, bids shall include language like, "For our Milestone D proposed remedial action approach to be successful and for the technology(ies) used thereby to operate as planned and meet our proposed cleanup schedule, the Milestone C testing must show:

1. A hydraulic conductivity greater than X;
2. A pumping rate exceeding XX gpm at the end of YY hours of vacuum enhanced pumping;
3. The capacity to generate a soil vapor extraction vacuum of at least Y in the native soil while not exceeding a soil flow rate of Z; and
4. Iron and manganese hardness within groundwater at or below XX milligrams per liter (mg/L)."

End of example bid language. Actual bid language, if any, and the associated critical criteria will vary by bidder. Pilot study off-ramp assumptions must be specific to evaluating the feasibility of the technology relative to the consultant's bid approach. Identifying assumptions regarding the bidder's remedial system design is not acceptable. Some examples of inappropriate assumptions for this "Bid to Result" include: length of remedial system trenching, number of extraction points, type of remediation equipment, duration of remediation, etc. Please note that the Changed Condition criteria only applies to data from the Milestone C activities. Should it eventually be found once the Milestone D proposed remedial solution is implemented that the site, in fact, does exceed the critical criteria ranges, this will not constitute a Changed Condition since the selected bidder was given the opportunity under Milestone C to finish establishing site conditions.

The critical criteria identified in each bid and their associated acceptable range of testing results will be evaluated by the bid evaluation committee as part of the technical review. **Unrealistic criteria or criteria that are unreasonably narrow will reduce the favorability of the bid as viewed by the bid review committee.**

Milestone D– Implementation of Remedial Solution. Under this milestone, bidders shall provide a firm fixed-price bid to alternatively : i) finalize the design for and implement the PADEP-approved RAP "as-is" should a bidder fully accept the remedial approach and conceptual system design proposed by Letterle; ii) implement the general site remedy proposed in the RAP but with significant design modifications under a RAPA; or iii) implement an alternative site remedial approach under a RRAP that a bidder believes may be more efficient and economical for achieving a SHS site closure. Regardless of which path a consultant chooses to take, bidders shall provide a firm fixed-price for developing the remedial system final design, selection and procurement of remedial system equipment and materials, remedial system permitting, remedial system installation, remedial system start-up and troubleshooting, and remedial system operation and maintenance (including quarterly groundwater monitoring, sampling and reporting during system operation).

Each bidder shall submit with its bid response a description of the bidder's plan for remedial action for the Santiago facility that will alternatively rely on the existing RAP, or that will be subsequently documented in a RAPA or RRAP. This conceptual plan shall provide narrative and graphic information sufficient for both the Technical Contact and USTIF to fully understand the bidder's intentions.

The intent of Milestone D is for the bidder to provide an all-inclusive "turnkey" design-build scope of work and the associated pricing to implement the PADEP-approved RAP, or a RAPA or RRAP following PADEP approval. To assist the bid evaluation process, all bids shall incorporate and conform to the following general breakdown of Milestone D activities (both in the bid narrative and on the Bid Cost Tabulation Spreadsheet in Attachment 2).

Milestone D1 – Soil Excavation (if applicable)

If the RAP solution or some variation involving excavation is implemented, bidders will need to provide a firm fixed-price cost to complete limited excavation of residual source soil in the former unleaded gasoline UST area, along with associated backfilling and surface restoration per original. Should a consultant not propose soil excavation in its bid response, then a value of \$0.00 shall be entered into the Bid Cost Tabulation Spreadsheet.

As previously discussed, excessively impacted soil exists at, and presumably below, the base of the former UST cavity reported to be at a depth of approximately 12 ft-bg. At the base of the cavity is highly weathered siltstone and/or shale bedrock that appears to be excavatable at least to depths of about 17 to 21 ft-bg. According to the UST Closure Report (Attachment 1a), the silty clay backfill material removed from the UST cavity when the tank was pulled was returned to the excavation once the UST closure samples were collected. Reportedly, the backfill material was not impacted and soil contamination was

observed to be present only at the bottom of the excavation. The UST Closure Report also indicates that no groundwater entered the excavation during removal of the gasoline UST and groundwater level measurements collected from wells positioned near the former UST cavity after the tank was removed indicate that groundwater is present at depths greater than 25 ft-bg in the former tank area.

Within the existing RAP, Letterle estimated that approximately 78 yd³ of petroleum impacted soil exceeding the applicable SHS MSCs exist beneath the western and central portions of the former UST cavity and that the soil excavation would be no more than 13-14 ft deep (i.e., one to two feet below the base of the former tank cavity). However, each bidder proposing work under this task shall independently develop its estimate of and clearly identify with rationale the excavation dimensions and the volume of excessively impacted soil to be removed and transported off-property for disposal.

The SOW and fixed-price cost for Milestone D1 shall consider and provide the following:

- Only excessively impacted soil shall be transported and disposed off-site.
- VEGE wells that may be installed near the excavation will need to be designed to reduce or eliminate the potential for “short-circuiting” within the excavation backfill material.
- Any well(s) that may be destroyed during the excavation work shall be replaced.
- The dimensions of the excavation;
- A detailed discussion regarding the type and specifications of heavy and ancillary equipment; excavation methods; soil screening and segregation techniques; clean fill sampling and plans for reuse; waste management and profiling; plans for soil staging; the possibility for direct loading of excessively impacted soil; type of backfill; backfilling / compaction methods; plans for surface restoration; records keeping, etc. (Note that post-excavation soil attainment sampling is addressed under Milestone E).
- **A comprehensive and complete fixed-price bid for Milestone D1 that shall only exclude the costs for (1) contaminated soil transportation and disposal; and (2) clean fill importation.** Bids shall include unit-price rates (\$/ton) for (1) and (2) on the Bid Cost Tabulation Spreadsheet.
- A schedule for implementing and completing the excavation work.

Each bid proposing the RAP excavation task shall indicate that the Solicitor and PAUSTIF shall be provided the opportunity to observe the soil excavation activities.

The methods and results for Milestone D1 shall be described in the RACR (Milestone G).

As discussed under Milestone D3, if the RAP proposed excavation is NOT part of the successful bidder's SOW, then there will be an added performance requirement in the contract governing the work.

Milestone D2 – Finalizing Remedial Design, Permitting and Installation

Under this milestone, bidders shall provide a detailed SOW and firm fixed-price bid for finalizing the design details for the Milestone D proposed in-situ remedial approach, securing all necessary permits required for system installation and operation, and installing the remediation system including system start-up. Specifically, activities under this milestone shall include, but not necessarily be limited to,

developing a system final design; equipment and materials selection and procurement; preparation of associated work plans (e.g., Construction QA Plan); securing required permits for system construction and operation (e.g., zoning permit, system discharge permit(s), etc.); remedial system installation; and remedial system startup and troubleshooting.

Each bid proposing in-situ remediation shall indicate that the Solicitor and PAUSTIF shall be provided the opportunity to observe and/or inspect and confirm that the new remedial system has been installed and is being operated and maintained as described in the associated Fixed-Price Agreement.

Milestone D3 – Quarterly Remedial System Operation and Maintenance and Groundwater Monitoring, Sampling and Reporting

Under Milestone D3, bidders shall provide a firm fixed-price cost to conduct monthly remedial system operation, maintenance, and system monitoring (influent, midfluent and effluent sampling and analyses of extracted groundwater and vapor, as applicable). Additionally, the selected consultant shall evaluate monthly system data to assess remedial progress and make system adjustments, as necessary, to optimize performance. Also under milestone D3, the selected consultant shall conduct quarterly groundwater monitoring, sampling and reporting during remedial system operation. The quarterly events shall be an uninterrupted continuation of the requirements specified in Milestone A that begins with implementation of the remedial action under this milestone and ends with the commencement of Milestone F (Groundwater Attainment Demonstration).¹⁸

Milestone D1 shall be presented within bids and on the associated Bid Cost Tabulation Spreadsheet with a single firm fixed-price (if completed); Milestone D2 shall be presented within bids and on the associated Bid Cost Tabulation Spreadsheet with a single firm fixed-price; and Milestone D3 shall be presented within bids and on the Standardized Bid Form as a quarterly unit price. Bids shall also identify the bid duration of remediation system operation (i.e., number of quarters) in order to achieve the project goal and allow the initiation of Milestone F (Groundwater Attainment Demonstration). Bidders will note that the Bid Cost Tabulation Spreadsheet in Attachment 2 automatically extrapolates out the costs for eight (8) quarters of remedial system O&M and groundwater monitoring, sampling and reporting (Milestone D3) irrespective of the bid remedial O&M duration.

Bids shall describe the specific remedial system monitoring, permit compliance tests/reporting, operation protocols, and maintenance procedures that will be used to monitor and evaluate its performance. Bids shall also describe how their proposed remediation system may be adjusted to address changing Site conditions as the on-site remedial effort proceeds.

Soil Remediation Performance. If soil excavation as proposed in the RAP is **NOT** part of the bidders SOW and the residual soil impacts are, therefore, addressed via in-situ remediation, there will be a performance requirement in the contract. In this case, to provide added incentive to the successful bidder for implementing an in-situ remedy that achieves the soil cleanup as expeditiously and cost effectively as possible, 10% of each Milestone D3 incremental payment will be withheld and accumulated pending a successful demonstration of soil attainment of the standards under Milestone E. When soil attainment has been successfully demonstrated, the accumulation of 10% holdback payments will be reimbursed in one lump sum to the successful bidder. If soil excavation occurs per the RAP, there will be no performance incentive holdback of quarterly D3 in-situ remediation costs.

Milestone E – Soil Attainment Demonstration. Under this milestone, bidders shall provide a firm fixed-price for developing and implementing a soil sample collection and analysis program to

¹⁸ Should a bidder choose an MNA remedy for off-property groundwater impacts, this work would be performed coincident with the quarterly monitoring, sampling and reporting events under the Milestone D3.

demonstrate compliance with 25 PA Code 250.703 (General Attainment Requirements for Soil). As described previously under Section 3, the soil investigations completed by Letterle following the UST closure and during the subsequent site characterization activities indicate that concentrations of adsorbed-phase unleaded gasoline compounds in unsaturated soil were found to exceed the applicable SHS only at the base of the UST excavation.

Should a bidder propose to implement source soil excavation at the former UST cavity as part of the site remedy under Milestone D, then the soil attainment sampling shall be conducted as part of that milestone and post-excavation soil samples for laboratory analysis shall be collected from the floor and sidewalls of the excavation prior to backfilling. If soil excavation is not a component of a bidder's proposed site remedy, then soil samples shall be collected from soil borings generally positioned within and adjacent to the former gasoline UST cavity under Milestone E.¹⁹

The location, depth and number of soil samples shall be determined using PADEP's systematic random sampling procedures and other relevant guidance, assuming that one soil sample per excavation sampling point (or per boring) shall be submitted for laboratory analysis. Bids shall clearly identify the estimated number of soil borings (if any), average drilling depth (if applicable), and number of attainment soil samples.

Soil samples shall be analyzed for the post-March 2008 PADEP short list of unleaded gasoline parameters (inclusive of TMBs) using proper analytical methods and detection limits. Appropriate QA/QC samples shall also be obtained for laboratory analysis of the same parameters. The soil sampling results shall be evaluated based on PADEP's 75% / 10x Ad Hoc Rule. Results from the soil attainment demonstration shall be incorporated into the RACR (Milestone G).

Milestone F – Groundwater Attainment Demonstration. Consistent with the PADEP-approved RAP, bidders shall provide a firm fixed-price for completing eight (8) consecutive quarters of groundwater monitoring, sampling and reporting to demonstrate attainment of the SHS MSCs for groundwater. Each groundwater monitoring and sampling event shall include only the monitoring locations designated in the RAP as point-of-compliance (POC) wells. As specified in the RAP, the POC wells consist of MW-1, MW-3, MW-6, MW-8, MW-11, MW-13, MW-15, MW-17, MW-18 and MW-21 (10 wells total per quarterly event). Bidders shall provide an all-inclusive fixed unit-cost per well for gauging, purging, sample collection, sample management and analysis should an additional well, or wells, that may qualify for POC monitoring be installed under Milestone C.

The groundwater attainment demonstration shall be initiated once dissolved concentrations have achieved the SHS MSCs and shall continue as required for a total of eight (8) consecutive quarterly events (two years). If warranted by favorable groundwater analytical data from the POC wells, the selected consultant shall petition the PADEP for conducting less than eight (8) quarters of groundwater attainment monitoring, sampling and reporting. All work under Milestone F shall be conducted in accordance with 25 PA Code §250.702, §250.704, and §250.707.

Except for the number of wells to be gauged and sampled on a quarterly basis, all protocols and requirements for groundwater sample collection, sample analysis and management of investigation derived wastes specified under Milestone A shall apply to the program of groundwater attainment monitoring conducted under Milestone F.²⁰ The quarterly reporting requirements (i.e., quarterly RAPRs)

¹⁹ Soil boring locations shall be cleared through contacting PA One Call and sampling the initial five (5) feet of each boring location using a hand auger. Below five feet, each soil boring shall be advanced using direct-push sampling methods. Additionally, each soil boring shall be properly sealed and finished at the surface following sample collection and soil boring locations shall be field measured for inclusion on the site plan. Investigation-derived wastes shall be managed as described earlier in this section.

²⁰ This includes, but is not limited to, groundwater depth / SPH gauging, low-flow monitoring well purging / sampling requirements, groundwater sample management, purge water management, QA/QC protocols, etc.

for the groundwater attainment demonstration shall also be consistent with those referenced under Milestone A with the exception that the RAPRs generated under Milestone F shall provide an assessment of the progress made toward successful demonstration of attainment, invoking the 75% / 10x Ad Hoc statistical rule as necessary.

Milestone G – Preparation and Submittal of a Draft and Final Remedial Action Completion Report. Under this Milestone, bidders shall provide a firm fixed-price for preparing a draft and final RACR following the successful completion of both Milestones E and F. The RACR shall contain all information required under 25 PA Code 245.313 and other applicable statutes, regulations, and guidance and shall be signed and sealed by a Professional Geologist and Professional Engineer registered in the Commonwealth of Pennsylvania. The RACR shall request a ROL relative to soil and groundwater for the petroleum release identified in PAUSTIF Claim #2011-0036(F) by demonstrating compliance with the PADEP Act 2 SHS MSCs for a used aquifer in a residential setting (excluding the need for any activity or use limitations or institutional / engineering controls). The RACR shall be of sufficient quality and content to reasonably expect PADEP approval and issuance of a ROL.

The project schedule shall allow two (2) weeks for Solicitor and PAUSTIF review of the draft RACR before a final version is submitted to the PADEP. Following Solicitor / PAUSTIF review of the draft document, the selected consultant shall address any comments and submit the final RACR to the PADEP. As mentioned earlier, bids shall include time to address any PADEP comments received on the RACR since Milestone H (Site Restoration) will be performed following PADEP approval of the report.

Milestone H – Site Restoration. Under this milestone, bidders shall provide a firm fixed-price for: i) proper abandonment of all site groundwater monitoring wells and piezometers (as applicable); ii) proper abandonment of all site extraction wells or injection wells (as applicable); iii) proper abandonment of all site vapor monitoring points; iv) removal and proper disposal of all remedial equipment and materials including proper abandonment of below grade piping; v) removal and proper disposal of the remediation building / compound; vi) as-needed grading of all ground surface areas that have been disturbed by site characterization or remedial action activities; and vii) in-kind restoration (pavement or vegetation) of all ground surface areas that have been disturbed by site characterization or remedial action activities.

Work under Milestone H shall be completed within 60 days of RACR approval by the PADEP and shall be conducted in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives including abandonment of all wells, piezometers, and vapor monitoring points (as applicable) consistent with PADEP's 2001 Groundwater Monitoring Guidance Manual. Well abandonment and site restoration activities shall be coordinated with the Solicitor.

Work and bid pricing for this milestone shall include all associated documentation required by PADEP, PAUSTIF or the Solicitor. This includes, but is not limited to, daily photo-documentation of all site restoration and well abandonment activities and submitting copies of the completed Groundwater Monitoring Abandonment Forms to the PADEP so that the Department may close its files on this facility. Copies of these photographs and well abandonment forms shall be provided to the Solicitor and PAUSTIF.

The selected consultant shall determine whether the Solicitor wishes to maintain any components of the remedial system (e.g. treatment building) before removing them from the Site. All debris and waste materials generated during well abandonment and site restoration activities shall be properly disposed as directed earlier in this section.

5. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable, fixed-price, not-to-exceed contract for the SOW addressed by Milestones A through H. A sample Fixed-Price Agreement is included as Attachment 3.²¹ The Fund will facilitate negotiations between the Solicitor and the selected consultant toward executing this Fixed-Price Agreement. Note that once the selected consultant is instructed to prepare a draft Fixed-Price Agreement, it has no more than ten (10) business days to return its draft of the Agreement for Technical Contact / ICF review.

As noted earlier, by submitting a bid in response to this RFB, each bidder indicates its acceptance of the milestone requirements and contractual terms of this project (Attachments 2 and 3), including any stated schedule deadlines, unless explicitly stated to the contrary in its bid. Therefore, any requested changes to the Fixed-Price Agreement must be specified in the bid response. Please note that these changes will need to be reviewed and agreed upon by both the Solicitor and the Fund.

Each bid is to clearly identify unit cost rates for labor, other direct costs, and equipment, as well as proposed mark-ups on other direct costs and subcontracted services for all SOW Milestones A through H. The by-milestone and by-submilestone quotes are to be entered into the Bid Cost Tabulation Spreadsheet included as Table 1 in Attachment 2 to this RFB. Bid costs will be evaluated based solely **on the cost information as provided on Table 1 in Attachment 2.** 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. Finally, please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

Payment Milestones: Table 2 below illustrates the approximate timing expected for completion of respective milestone tasks and milestone payouts. Actual milestone payments will occur only after successful and documented completion of the work defined for each milestone. Payment milestones under the Fixed-Price Agreement shall be broken out as follows:

- Milestones A1 through A4 – Quarterly Groundwater Monitoring, Sampling and Reporting. Note that the schedule assumes four (4) Milestone A payments.
- Milestones B1 through B4 – Continued Interim Remedial Actions. Note that the schedule assumes four (4) quarterly Milestone B payments.
- Milestone C – Supplemental Site Characterization Activities and Reporting.
- Milestone D1 – Implement Remedial Solution - Soil Excavation (if applicable)

²¹ The selected consultant will be provided an electronic copy of the sample contract in Word format to allow contract-specific information to be added.

- Milestone D2 – Implement Remedial Solution - Finalizing Remedial Design, Permitting and Installation
- Milestone D3 – Implement Remedial Solution - Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting. Note that the schedule and bid form extrapolates to eight (8) quarterly Milestone D3 payments.
- Milestone E – Soil Attainment Demonstration.
- Milestones F1 through F8 – Groundwater Attainment Demonstration. Note that the schedule assumes eight (8) Milestone F payments.
- Milestone G – Preparation and Submittal of a Draft and Final Remedial Action Completion Report.
- Milestone H – Site Restoration.

TABLE 2 – SAMPLE MILESTONE COMPLETION / PAYMENT SCHEDULE

Estimated Milestone Timing Month After Contract Award	SOW Activities Anticipated / Completed for that Month	Milestone ¹
1	Quarterly Groundwater Monitoring, Sampling and Reporting; Continued Interim Remedial Actions	A1
4	Quarterly Groundwater Monitoring, Sampling and Reporting; Continued Interim Remedial Actions	A2, B1
6	Supplemental Site Characterization Activities and Reporting; Continued Interim Remedial Actions	C
7	Quarterly Groundwater Monitoring, Sampling and Reporting; Continued Interim Remedial Actions	A3, B2
10	Quarterly Groundwater Monitoring, Sampling and Reporting; Continued Interim Remedial Actions	A4, B3
11	Soil Excavation (if applicable); Continued Interim Remedial Actions	D1
12	Finalizing Remedial Design, Permitting and Installation; Continued Interim Remedial Actions	B4, D2
13	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3
16	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3
19	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3
22	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3

Estimated Milestone Timing Month After Contract Award	SOW Activities Anticipated / Completed for that Month	Milestone ¹
25	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3
28	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3
31	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3
34	Quarterly Remedial System Operation & Maintenance and Groundwater Monitoring, Sampling and Reporting	D3
35	Soil Attainment Demonstration; Groundwater Attainment Demonstration	E, F1
38	Groundwater Attainment Demonstration	F2
41	Groundwater Attainment Demonstration	F3
44	Groundwater Attainment Demonstration	F4
47	Groundwater Attainment Demonstration	F5
50	Groundwater Attainment Demonstration	F6
53	Groundwater Attainment Demonstration	F7
56	Groundwater Attainment Demonstration	F8
58	Preparation and Submittal of a Draft and Final Remedial Action Completion Report	G
61	Site Restoration	H

- Each bidder should modify this sample Milestone Completion / Payment Schedule for Milestones A through H to reflect its proposed task schedule, as long as the proposed schedule meets the criteria specified in Section 4 of this RFB.

Please note that the selected consultant's work may be subject to ongoing review by the PAUSTIF or its representatives to assess whether the proposed and completed work and the associated costs are reasonable, necessary, and appropriate. In order to facilitate review and reimbursement of submitted invoices by PAUSTIF, project costs shall be invoiced following the milestone structure specified in the selected bidder's bid response. Tracking incremental and cumulative costs by milestone will also be required to facilitate invoice review.

Unless otherwise noted by the bidder, each bid response received is required to be good for a period of up to 120 days after its receipt. All bid pricing (fixed-prices and quoted unit prices) shall be good for the duration of the period of performance cited in the associated Fixed-Price Agreement.

6. ADDITIONAL BID PACKAGE REQUIREMENTS

Each submitted bid response must include the following:

- A reasonable demonstration that the bidder (i) understands the objectives of the project, (ii) offers a reasonable approach for achieving those objectives efficiently, and (iii) has reviewed the existing site information provided in or attached to this RFB Solicitation Package.
- Provide an answer to the following questions regarding the bidder's qualifications and experience:
 - How many Chapter 245/250 sites has your company closed (i.e., obtained a Release of Liability under Act 2) in Pennsylvania (*do not include UST removals / closures*)?
 - How many Chapter 245/250 sites has your company or the proposed PA-licensed Professional Geologist (P.G.) and Professional Engineer (P.E.) closed (i.e., obtained a Relief of Liability from the PADEP) under either the SHS and/or the Site Specific Standard (*do not include UST removals / closures*)? [*NOTE: The Solicitor requires the work described herein to be completed under the responsible care and directly supervised by a P.G. and / or P.E. consistent with applicable regulations and licensing standards.*]
 - Whether there were or were not circumstances consistent with the cancellation provision of a signed contractual agreement, has your firm ever terminated work under a fixed-price or pay-for-performance contract before attaining all of the project objectives and milestones? If yes, please list and explain the circumstances of each such occurrence.
- A complete firm fixed-price cost bid for Milestones A through H by completing the bid cost tabulation spreadsheet provided in Attachment 2 (included among the accompanying electronic files) following the SOW milestone structure specified herein.
- A description and discussion of all level-of-effort and costing assumptions.
- Indicate whether the bidder accepts the proposed contract / terms and conditions (see Attachment 3) or has provided a list of requested changes to the Fixed-Price Agreement.
- Provide a statement of applicable / pertinent qualifications, including the qualifications of any proposed subcontractors (relevant project descriptions are encouraged).
- Identify the proposed project team and provide resumes for the key project staff, including the proposed Professional Geologist and Professional Engineer of Record who will be responsible for endorsing work products prepared for PADEP review and approval.
- Provide a milestone-by-milestone description of the proposed technical approach. **If this milestone-by-milestone description fails to address a specific requirement of this RFB, it will be assumed that the bidder has accepted all the requirements specified herein by milestone.**
- Identify and sufficiently describe subcontractor involvement by task (if any).
- Provide a detailed schedule complete with specific by-month dates for completing the proposed SOW (Milestones A through H), inclusive of reasonable assumptions regarding the timing and duration of client, PAUSTIF, and PADEP reviews needed to complete the SOW. Details on such items as proposed meetings and work product submittals shall also be reflected in the schedule of activities.
- Describe your approach to working with the PADEP from project inception through approval of the RACR. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed as to project status.

- Describe how the Solicitor and ICF / PAUSTIF will be kept informed as to project progress and developments and how the Solicitor will be informed of, and participate in, evaluating potential alternatives / tradeoffs with regard to the SOW.

7. MANDATORY PRE-BID SITE VISIT

On Thursday, December 20, 2012, THERE WILL BE A MANDATORY PRE-BID SITE MEETING facilitated by the Technical Contact. The Technical Contact will be present at the site between 10:00 AM and 11:00 AM to answer general questions and conduct a site tour for no more than two participants per firm. Any firm that does not attend this mandatory pre-bid site meeting on the date and during the hours specified will not be eligible to submit a bid.

A CONFIRMATION OF YOUR INTENT TO ATTEND THIS PRE-BID SITE MEETING IS REQUESTED and shall be provided to the Technical Contact via e-mail at least three business days in advance of this date with the subject header "SANTIAGO DISTRIBUTING COMPANY, INC., PAUSTIF CLAIM #2011-0036(F), Site Meeting Attendance Confirmation." This e-mail is to indicate the number and names of the participants (no more than two) attending from your firm. Each attending firm will be asked to enter the contact information for the individual at the firm who is to receive all subsequent RFB-related communications to help ensure the receipt of this information (e.g., responses to bidder questions).

Questions will be entertained during the pre-bid site meeting and every attempt will be made to answer questions at that time. Verbal questions and responses discussed during the site meeting will also be distributed in writing to the attendees after the tour, as will the answers to any non-proprietary questions submitted in writing after the pre-bid site meeting has been concluded. Consequently, bidders are strongly encouraged to ask clarifying questions sufficient to minimize the number of assumptions, special conditions, and exemptions referenced in the submitted bid.²² Questions will be accepted by the Technical Contact up to five (5) calendar days prior to the date when bids are due.

8. CRITICAL BID PROCESS DATES

Throughout the bid process, bidding consultants must remain cognizant of key dates for this RFB solicitation. The following list provides a general recap of important bid process events and dates.

- Mandatory Site Walk: Thursday, December 20, 2012
- Question and Answer Period: Thursday, December 20, 2012 through Saturday, January 12, 2013
- Bid Responses Due: Friday, January 18, 2013

²² As appropriate, the list of assumptions, special conditions, or exemptions will be discussed with the Solicitor. As part of that discussion, the PAUSTIF may advise the Solicitor that some or all of the assumptions, special conditions, or exemptions that are likely to generate change orders may be the financial responsibility of the Solicitor.

ATTACHMENT 1

Historical / Background Documents

<u>Filename:</u>	<u>Document:</u>
Attachment 1a	UST Closure Report, Letterle & Associates, LLC, March 25, 2011
Attachment 1b	Environmental Site Characterization Report, Letterle & Associates, LLC, April 11, 2012
Attachment 1c	Remedial Action Plan, Letterle & Associates, LLC, May 21, 2012
Attachment 1d	Additional figures for May 21, 2012 Remedial Action Plan
Attachment 1e	PADEP SCR / RAP review letter, July 24, 2012
Attachment 1f	Historical groundwater gauging, LNAPL recovery and groundwater analytical data through third quarter 2012

ATTACHMENT 2

Bid Cost Tabulation Spreadsheet

ATTACHMENT 3

Standard Sample / Template Fixed-Price Remediation Agreement

(This agreement has been provided in an electronic form that does not permit modification because only the selected consultant will need to complete the agreement. An electronic version of the agreement that will allow for tracking modifications to the agreement will be provided to the selected consultant at the appropriate time.)

ATTACHMENT 4

Figures

FIGURE 1
SITE LOCATION MAP

FIGURE 2
SITE PLAN

FIGURE 3

GENERALIZED SITE PLAN WITH UTILITIES