

## **Request for Bid**

**Fixed-Price Defined Scope of Work for Site Characterization**

### **Solicitor**

**John F. Martin & Sons, Inc.**

**55 Lower Hillside Road  
Stevens, PA 17578**

**PADEP Facility ID #: 36-60491      PAUSTIF Claim #: 2015-0121(F)**

### **Date of Issuance**

**November 23, 2016**

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The Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF), on behalf of the claimant who hereafter is referred to as the Client or Solicitor, is providing this Request for Bid (RFB) to prepare and submit a bid to complete the Scope of Work (SOW) for the referenced Site. The Solicitor is the current owner/operator of the Site. PAUSTIF has determined that the claim reported by the Solicitor is eligible for coverage from the PAUSTIF subject to the applicable statutes and regulations. Reimbursement of Solicitor approved reasonable and necessary costs, not to exceed the claim aggregate limit, for the corrective action work described in this RFB will be provided by PAUSTIF. Solicitor is responsible to pay any applicable deductible and/or proration.

Each bid response will be considered individually and consistent with the evaluation process described in the PAUSTIF Competitive Bidding Fact Sheet which can be downloaded from the PAUSTIF website <https://ustif.pa.gov>.

## Calendar of Events

Activity	Date and Time
Notification of Intent to Attend Site Visit	December 12, 2016 by 5 p.m.
Mandatory Pre-Bid Site Visit	December 13, 2016 at 1 p.m.
Deadline to Submit Questions	January 6, 2017 by 5 p.m.
Bid Due Date and Time	January 20, 2017 by 3 p.m.

## Contact Information

Technical Contact
<p><b>Lawrence F. Roach, P.G.</b> <b>Groundwater Sciences Corporation</b> <b>2601 Market Place Street, Suite 310</b> <b>Harrisburg, PA 17110</b> <b>lroach@groundwatersciences.com</b></p>

All questions regarding this RFB and the subject Site conditions must be directed via email to the Technical Contact identified above with the understanding that all questions and answers will be provided to all bidders. The email subject line must be “**John F. Martin and Sons PAUSTIF Claim # 2015-0121(F)**”. Bidders must neither contact nor discuss this RFB with the Solicitor, PAUSTIF, the Pennsylvania Department of Environmental Protection (PADEP), or ICF unless approved by the Technical Contact. Bidders may discuss this RFB with subcontractors and vendors to the extent required for preparing the bid response.

## Requirements

### Mandatory Pre-Bid Site Meeting

The Solicitor, the Technical Contact, or their designee will hold a mandatory Site visit on the date and time listed in the Calendar of Events to conduct a Site tour for one (1) participant per bidding company. The Technical Contact may answer questions at the Site meeting or may collect questions and respond via email. All questions and answers will be provided via email to all attendees. This meeting is mandatory for all bidders, no exceptions. This meeting will allow each bidding company to inspect the Site and evaluate Site conditions. **A notice of the bidder's intent to attend this meeting is requested to be provided to the Technical Contact via email by the date listed in the Calendar of Events with the subject "John F. Martin and Sons PAUSTIF Claim # 2015-0121(F) – SITE MEETING ATTENDANCE NOTIFICATION"**. The name and contact information of the company participant should be included in the body of the email. Notification of intent to attend is appreciated; however, it is not required. Attendance at the Pre-Bid Site Meeting is mandatory.

### Submission of Bids

To be considered for selection, **one (1) hard copy of the signed bid package and one (1) electronic copy (one (1) PDF file on a compact disk (CD) included with the hard copy) must be provided directly to the PAUSTIF's third party administrator, ICF, to the attention of the Contracts Administrator.** The Contracts Administrator will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. Bid responses will only be accepted from those companies that attended the Mandatory Pre-Bid Site Meeting. **The ground address for overnight/next-day deliveries is ICF, 4000 Vine Street, Middletown, PA 17057, Attention: Contracts Administrator. The outside of the shipping package containing the bid must be clearly marked and labeled with "Bid – Claim # 2015-0121(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 in the Calendar of Events for submission. Companies mailing bids should allow adequate delivery time to ensure timely receipt of their bid.

**The bid must be received by 3 p.m., on the due date shown in the Calendar of Events.** Bids will be opened immediately after the 3 p.m. deadline on the due date. Any bids 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 PAUSTIF's third party administrator, ICF's office is closed on the bid due date, the deadline for submission will automatically be extended to the next business day on which the office is open. The PAUSTIF's third party administrator, ICF, may notify all companies that attended the Mandatory Pre-Bid Site Meeting of an extended due date. The hour for submission of bids shall remain the same. Submitted bid responses are subject to the Pennsylvania Right-to-Know Law.

## Bid Requirements

The Solicitor wishes to execute a mutually agreeable contract with the selected consultant ("Remediation Agreement"). The Remediation Agreement is included as Attachment 1 to this RFB. The bidder must identify and document in their bid any modifications that they wish to propose to the Remediation Agreement language in Attachment 1 other than obvious modifications to fit this RFB (e.g., names, dates, and descriptions of milestones). The number and scope of any modifications to the standard agreement language will be one (1) of the criteria used to evaluate the bid. **Any bid that does not clearly and unambiguously state whether the bidder accepts the Remediation Agreement language in Attachment 1 "as is", or that does not provide a cross-referenced list of requested changes to this agreement, will be considered non-responsive.** This statement should be made in a Section in the bid entitled "Remediation Agreement". Any proposed changes to the agreement should be specified in the bid; however, these changes will need to be reviewed and agreed upon by both the Solicitor and the PAUSTIF.

The selected consultant will be provided an electronic copy (template) of the draft Remediation Agreement in Microsoft Word format to allow agreement-specific information to be added. The selected consultant shall complete the agreement-specific portions of the draft Remediation Agreement and return the document to the Technical Contact within 10 business days from date of receipt.

The Remediation Agreement fixed costs shall be based on unit prices for labor, equipment, materials, subcontractors/vendors, and other direct costs. The total cost quoted in the bid by the selected consultant will be the maximum amount to be paid by the Solicitor unless a change in scope is authorized and determined to be reasonable and necessary. There may be deviations from and modifications to this SOW during the project. The Remediation Agreement states that any significant changes to the SOW will require approval by the Solicitor, PAUSTIF, and PADEP. NOTE: Any request for PAUSTIF reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

The bidder shall provide its bid cost using the Bid Cost Spreadsheet (included as Attachment 2) with descriptions for each task provided in the body of the bid document. Please note, if costs are provided within the text of the submitted bid and there is a discrepancy between costs listed in the Bid Cost Spreadsheet and in the text, the costs listed within the Bid Cost Spreadsheet will be used in the evaluation of the bid and in the Remediation Agreement with the selected consultant. Bidders are responsible to ensure spreadsheet calculations are accurate. The technical score for bids will be based solely on those tasks represented as milestones included in the Bid Cost Spreadsheet and the total bid cost. Any optional bidder-defined tasks, milestones, or cost adders that are not requested as part of this RFB will not be considered by the Bid Evaluation Committee in the technical review and technical score for the bid.

In addition, the bidder shall provide:

1. The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs, and equipment;
2. The bidder's proposed markup on other direct costs and subcontractors (if any);
3. The bidder's estimated total cost by task consistent with the proposed SOW identifying all level-of-effort and costing assumptions; and
4. A unit rate schedule that will be used for any out of scope work on this project.

Each bid will be assumed to be valid for a period of up to 120 days after receipt unless otherwise noted. The costs quoted in the Bid Cost Spreadsheet will be assumed to be valid for the duration of the Remediation Agreement.

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 unless the RFB requests costing alternatives for specific items or services. Any bid that disregards this requirement will be considered non-responsive to the bid requirements and, as a result, will be rejected and will not be evaluated.

The RFB is requesting a total fixed-price bid (unless the RFB requests costing alternatives for specific items or services). PAUSTIF will not agree to assumptions (in bids or the selected bidders executed Remediation Agreement) referencing a level of effort and/or hours. Costs provided in your bid should be developed using your professional opinion, experience, and the data provided. PAUSTIF will not reimburse costs for additional hours to complete activities included as part of the base bid/contract price.

Each bid response document must include at least the following:

1. Demonstration of the bidder's understanding of the Site information provided in this RFB, standard industry practices, and objectives of the project.
2. A clear description, specific details, and original language of how the proposed work scope will be completed for each milestone. The bid should specifically discuss all tasks that will be completed under the Remediation Agreement and what is included (e.g., explain groundwater purging/sampling methods, which guidance documents will be followed, what will be completed as part of the Site specific work scope/SCR/RAP implementation). Recommendations for changes/additions to the Scope of Work

proposed in this RFB shall be discussed, quantified, and priced separately; however, failure to bid the SOW “as is” may result in a bid not being considered.

3. A copy of an insurance certificate that shows the bidder’s level of insurance consistent with the requirements of the Remediation Agreement. Note: The selected consultant shall submit evidence to the Solicitor before beginning work that they have procured and will maintain Workers Compensation, commercial general and contractual liability, commercial automobile liability, and professional liability insurance commensurate with the level stated in the Remediation Agreement and for the work to be performed.
4. The names and brief resumes/qualifications of the proposed project team including the proposed Professional Geologist and Professional Engineer (if applicable) who will be responsible for overseeing the work and applying a professional seal to the project deliverables (including any major subcontractor(s)).
5. Responses to the following specific questions:
  - a. Does your company employ a Pennsylvania-licensed Professional Geologist that is designated as the proposed project manager? How many years of experience does this person have?
  - b. How many Pennsylvania Chapter 245 projects is your company currently the consultant for in the PADEP Region where the Site is located? Please list up to 10.
  - c. How many Pennsylvania Chapter 245 Corrective Action projects involving an approved SCR, RAP, and RACR has your company and/or the Pennsylvania-licensed Professional Geologist closed (i.e., obtained Relief from Liability from the PADEP) using any standard?
  - d. Has your firm ever been a party to a terminated PAUSTIF-funded Fixed-Price (FP) or Pay-for-Performance (PFP) contract without attaining all of the milestones? If so, please explain.
6. A description of subcontractor involvement by task. Identify and describe the involvement and provide actual cost quotations/bids/proposals from all significant specialized subcontracted service (e.g., drilling/well installations, laboratory, etc.). If a bidder chooses to prepare its bid without securing bids for specialty subcontract services, it does so at its own risk. Added costs resulting from bid errors, omissions, or faulty assumptions will not be considered for PAUSTIF reimbursement.
7. A detailed schedule of activities for completing the proposed SOW including reasonable assumptions regarding the timing and duration of Solicitor reviews (if any) needed to complete the SOW. Each bid must provide a schedule that begins with execution of the Remediation Agreement with the Solicitor and ends with completion of the final

milestone proposed in this RFB. Schedules must also indicate the approximate start and end date of each of the tasks/milestones specified in the Scope of Work, and indicate the timing of all proposed key milestone activities (e.g., within 30 days of the contract being executed).

8. A description of how the Solicitor, ICF, and the PAUSTIF will be kept informed as to project progress and developments and how the Solicitor (or designee) will be informed of and participate in evaluating technical issues that may arise during this project.
9. A description of your approach to working with the PADEP. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed of activities at the Site.
10. Key exceptions, assumptions, or special conditions applicable to the proposed SOW and/or used in formulating the proposed cost estimate. Please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exceptions may result in the bid response being deemed “unresponsive”.

## **General Site Background and Description**

Each bidder should carefully review the existing information and documentation provided in Attachment 3. The information and documentation has not been independently verified. Bidders may wish to seek out other appropriate sources of information and documentation specific to this Site. If there is any conflict between the general Site background and description provided herein and the source documents within Attachment 3, the bidder should defer to the source documents.

### **Site Address**

55 Lower Hillside Road  
Stevens, PA 17578  
West Cocalico Township, Lancaster County

### **Site Description and Operation History**

The site is owned and operated by John F. Martin and Sons, Inc. (John F. Martin and Sons), a family-owned company that processes meat and cheese products. Since opening in the early 1960s many improvements to the site have been made, including the addition of several buildings. The meat and cheese processing facility and support buildings are situated on the eastern half of a 34 acre parcel located immediately north of the Pennsylvania Turnpike. The facility is accessed by Lower Hillside Road. Agricultural fields and a ground solar array (which provides electricity to John F. Martin and Sons' operations) are situated on the western half of the 34 acre parcel. According to site representatives, John F. Martin and Sons also owns several acres of agricultural property immediately to the east, immediately to the west, and immediately to south (just beyond the Pennsylvania Turnpike) of the site.

The Site property slopes gently to the south (towards Pennsylvania Turnpike) and has a surface elevation ranging from approximately 480 feet above mean sea level (famsl) in the northern portion of the property to approximately 460 famsl in the southern portion of the property where the UST subject to this Request for Bid is located. Beyond the Pennsylvania Turnpike to the south the topography continues to slope downward. An unnamed tributary to Indian Run (located approximately 0.5 miles west of the site) is located approximately 0.35 miles north of the site. The surrounding properties are a mix of residential and commercial (agricultural) use. The site and surrounding properties are serviced by private water supplies and septic systems. A Site Location Map is presented as Figure 1 in Attachment 3a.

Three water supply wells (WSW-2, WSW-3, and WSW-4) are located on the site that can provide potable water to a 40,000-gallon underground tank located between the main site building and the solar array. Water is distributed from the potable water tank to the site. According to writing inside water supply well WSW-4's well cover, the well is constructed as a

300 feet deep well with 84 feet of casing and produces 160 gallons per minute (gpm). No information was available for water supply wells WSW-2 and WSW-3.

A small building (water treatment building), located adjacent to the 40,000-gallon water tank contains the electrical controls for the water supply well pumps, water distribution piping, transfer pumps, and water treatment chemicals. According to writing adjacent to the electrical control for each pump, WSW-2's pumping rate is 45 gpm, WSW-3's pumping rate is 120 gpm, and WSW-4's pumping rate is 120 gpm. According to a John F. Martin and Sons representative, the facility uses approximately 30,000-gallons of water per week, which is generally produced evenly between WSW-3 and WSW-4 (approximately 15,000-gallons per well each). The John F. Martin and Sons representative also indicated that WSW-2 is not generally used. The approximate location of the water supply wells, the potable water tank, and the water treatment building are shown on the Site Map included as Figure 2 in Attachment 3a.

Process wastewater from the facility's operations is pretreated by two above groundwater waste water treatment tanks located on the site property. Pretreated process wastewater from the pretreatment tanks and grey water from the site's buildings flow from the site property to a sewage treatment facility located on John F. Martin and Sons' property located to the west. The sewage treatment facility is owned and operated by John F. Martin and Sons. The sewage treatment facility, located approximately 500 feet west of the solar array, discharges treated water to Indian Run. The location of the wastewater pretreatment tanks is shown on the Site Map included as Figure 2 in Attachment 3a.

A sump, which contains a float-activated sump pump, is located in the basement floor of the main building. Groundwater that accumulates in the gravel backfill located beneath the basement slab infiltrates the sump (along with a minor amount of dehumidifier condensate) and is discharged by the pump. The sump pump conveys the water to a stormwater catchment basin located outside of the building at the base of a downward sloping ramp that allows vehicle and employee access to the basement. The stormwater catchment basin conveys stormwater and groundwater (from the sump pump) via underground piping to a discharge area located south of the main building. The approximate location of the basement sump and the stormwater discharge area is shown on the Site Map included as Figure 2 in Attachment 3a.

According to a representative of John F. Martins and Sons, the main building is constructed with a French drain along the outside of the building's footer. It is not known where the French drain discharges the captured water. A conceptual cross section showing the former UST systems (discussed below), existing groundwater monitoring wells (discussed below), water supply wells, the French drain, the basement sump, basement access ramp and stormwater catchment basin, and other pertinent site features is presented as Figure 3 in Attachment 3a.

## **Site Background**

Three registered Underground Storage Tanks (USTs) (USTs 001, 002, and 003) are known to have existed at the Site. UST 001 is a 10,000-gallon heating oil tank that was reportedly installed to the west of the main site building in 1971 (shown on Figure 2 in Attachment 3a). Although UST 001 is no longer in service and is reportedly empty, it remains in place. USTs 002 and 003 are 10,000-gallon USTs that were installed in 1978 in the same tank grave located immediately to the southwest of the service garage. UST 002, which contained diesel fuel, and UST 003, which contained gasoline, provided fuel to John F. Martin and Sons' vehicle fleet via dispensers located approximately twenty five feet to the west of the USTs (between the USTs and the main site building). The location of the service garage, the main site building, the former USTs, and the former dispensers are shown on Figures 2, 3, 4, and 5 in Attachment 3a.

On September 15, 2015, as part of a routine scheduled inspection, Innovative Petroleum Equipment & Contracting, Inc. identified a diesel fuel leak from a union located beneath the diesel dispenser which did not have a containment sump beneath it. The dispenser was taken out of service and repairs to the dispenser were reportedly made the next day. The volume of diesel fuel lost is unknown. On September 31, 2015 the PADEP was notified of the release.

In January 2016, Liberty Environmental (Liberty) conducted a soil and groundwater investigation at the site. On January 28, 2016, Liberty advanced six soil borings (SB-1 through SB-6) to investigate the presence of diesel fuel impacts to soil from the dispenser leak. Five soil samples were collected as part of the soil investigation. One soil sample each was collected from SB-1, SB-2, SB-3, SB-4, and SB-6. Sample depths ranged from 2 feet below grade (fbg) (SB-6 located approximately 5 feet west of the diesel dispenser) to 11.9 fbg (SB-1 located approximately 20 feet north/northeast of the diesel dispenser).

The soil samples were analyzed for the substances listed on the PADEP's shortlist of diesel fuel substances. One sample, collected from 2 fbg in SB-6, contained concentrations of 1,2,4-trimethylbenzene (124TMB) above the PADEP's Statewide Health Standard (SHS) soil-to-groundwater Medium Specific Concentrations (MSCs).

Following the advancement of the soil borings, Liberty constructed one-inch diameter monitoring wells inside soil borings SB-1 (monitoring well MW-1), SB-2 (monitoring well MW-2), and SB-3 (monitoring well MW-3). Monitoring well depths ranged from approximately 10 fbg (MW-3) to approximately 15 fbg (MW-1 and MW-2).

On January 29, 2016, a sample was collected from each of the three monitoring wells and from a spigot located on the outside of the water treatment building located adjacent to the potable water UST. Water supply wells WSW-3 and WSW-4 were reportedly providing water to the supply system during the sampling event and so the sample collected from the spigot was reported to be a composite sample from these two water supply wells. The samples collected from the monitoring wells and the spigot were analyzed for the substances listed on the

PADEP's shortlist of diesel fuel substances. The groundwater sample collected from monitoring well MW-1 contained reported concentrations of benzene, naphthalene, 124TMB, and 1,3,5-trimethylbenzene (135TMB) above the PADEP's SHS MSCs and the groundwater sample collected from MW-3 contained reported concentrations of benzene, ethylbenzene, naphthalene, 124TMB, and 135TMB above the PADEP's SHS MSCs. A Site Detail Map showing the approximate location of the soil borings and monitoring wells is presented as Figure 4 in Attachment 3a.

Based on monitoring well casing elevations and measured depth-to-water in the monitoring wells, Liberty concluded that groundwater in the vicinity of the UST system was between approximately 7 and 8 fbg and generally flows to the south.

On February 29, 2016, Liberty submitted a Site Characterization Report (SCR) to the PADEP. The SCR described the diesel fuel leak at the dispenser, detailed the installation and sampling of the soil borings and monitoring wells, and selected the non-residential SHS as the remediation standard for soil and groundwater. The SCR is included as Attachment 3b.

In correspondence dated March 22, 2016, the PADEP approved Liberty's SCR "with the following modifications(s):

- The groundwater monitoring wells are constructed with one inch diameter well casing. The Department recommends the installation of larger diameter wells. One inch wells are not suitable for conducting aquifer testing or remediation.
- Additional groundwater characterization and sampling is necessary in order to define the full extent of the contaminant plume.
- The soil sample at SB-1 was collected from the saturated zone. Table 2 in the report compares the sample results from SB-1 to the unsaturated statewide health standard (SWHS) instead of the more appropriate saturated SWHS. Please be aware that the saturated SWHS for 1,2,4-trimethyl benzene is 6,200 ug/kg; therefore, the sample at SB-1 exceeds the SWHS for this constituent."

The PADEP's SCR approval letter is included as Attachment 3c.

In email correspondence dated June 15, 2016, a representative of John F. Martin and Sons requested an extension for the due date of the Remedial Action Plan. The extension request was made in light of the scheduled removal of USTs 002 and 003 and their associated dispensers.

During the week of July 18, 2016, Phil's Backhoe Service removed the gasoline UST (UST 002) and diesel fuel UST (UST 003) and the associated dispensers and dispenser island. On behalf of the PAUSTIF, GSC was onsite from July 18 to July 21, 2016 to observe the work. During the closure by removal of the UST systems, obvious extensive soil contamination was encountered. Phil's Backhoe Service performed an interim remedial action by excavating contaminated soil

from the dispenser island area and the UST grave. Both excavations extended vertically to the top of sandstone bedrock, located at approximately 12 to 13 fbg.

Following the dispenser area excavation, on July 19, 2016, Phil's Backhoe Service collected five soil samples from the dispenser excavation (SS #1 through SS #5). Soil sample SS#1 was collected from the pit floor while soil samples SS#2 through SS#5 were collected from the base of the southern, eastern, northern, and western walls, respectively. The locations of the soil samples are shown on the sketch map included in the UST closure report, prepared by Phil's Backhoe Service, included as Attachment 3d. The soil samples were analyzed for the substances listed on the PADEP's shortlist of diesel fuel substances. The results of the soil sampling are presented on the Soil Sampling Results Table included as Attachment 3e. As shown on the Soil Sampling Results Table, one soil sample (SS #4) contained concentrations of 124TMB above the PADEP's unsaturated and saturated SHS MSCs.

Prior to backfilling the dispenser excavation and the UST excavation, GSC collected four soil samples from the UST excavation's southern wall and four soil samples from the UST excavation's western wall on July 21, 2016. The approximate configuration of the dispenser excavation and UST excavation and the location of the eight soil samples collected by GSC from the UST excavation are shown on the UST Excavation and Soil Sampling Map included as Figure 5 in Attachment 3a. The soil samples were analyzed for the substances listed on the PADEP's shortlist of diesel fuel substances and the results of the soil sampling are presented on the Soil Sampling Results Table included as Attachment 3e. As shown on the Soil Sampling Results Table, all analyzed substances in the four soil samples collected from the southern wall (two samples collected from 7 fbg and two samples collected from 11 fbg) were below applicable SHS MSCs. One of the two deep samples collected from the base of the west wall at 10 fbg (sample W Wall 2) contained a reported concentration of 124TMB above the unsaturated and saturated SHS MSCs and a reported concentration of naphthalene above the saturated SHS MSC. Both of the shallow soil samples (collected from 7 fbg) collected from the west wall (locations W Wall 1 and W Wall 2) contained reported concentrations of 124TMB above the saturated SHS MSC.

According to the UST Closure Report, approximately 200 tons of contaminated soil was excavated for off-site disposal as part of the dispenser and UST excavations while approximately 52 tons of excavated uncontaminated soil was reused as backfill.

By July 21, 2016, at least one foot of water (presumably groundwater) had accumulated in the bottom of the excavations.

On August 12, 2016, GSC collected a grab sample from the basement sump and water supply wells WSW-2, WSW-3, and WSW-4. Prior to collecting a sample from the basement sump, the dehumidifier's condensate drain tubing was removed from the sump and the sump pump was manually activated to evacuate the accumulated water from the sump. The sump was then

allowed to refill with water from beneath the slab. Once the sump was filled with water, a grab sample was collected from the sump. Prior to collecting samples from the water supply wells, each water supply well was purged for approximately 5 minutes using the dedicated pump set in each well. Purge water from each well was discharged to the surface via a common discharge pipe and sampling port located on the exterior of the water treatment building. Following each water supply well's purge, grab samples from each water supply well was collected from the sampling port.

The sump and water supply well samples were collected in laboratory-provided glassware and submitted to ALS under chain-of-custody protocols to be analyzed for the substances on the PADEP's shortlist of diesel fuel substances. The sump sample was analyzed by Method 8260B while the water supply well samples were analyzed by drinking water methods (EPA Method 524.2). The results of the sump and water supply well sample analysis are presented on the Water Sampling Results Table included as Attachment 3f. As shown on the Water Sampling Results Table, all analyzed substances in the sump sample and the water supply well samples were below the applicable laboratory report detection limits.

## **Scope of Work (SOW)**

This RFB seeks competitive bids from qualified contractors to perform the activities in the SOW specified herein. The PADEP has reviewed and provided comments on this RFB.

### **Objective**

The objective of this RFB is to execute the defined SOW that will gather soil quality data, groundwater quality data, and other subsurface information necessary to evaluate site conditions that will enable the submission of a Site Characterization Report (SCR) Addendum. Following the completion of the SOW specified in this RFB, the remaining corrective action activities necessary for the Solicitor to obtain relief from liability will either be competitively bid or the consultant selected for this RFB may be invited to continue work under a fixed-price contract.

### **Constituents of Concern (COCs)**

The COCs for this site are the substances identified on the diesel fuel parameter short list provided in the PADEP's December 15, 2012 Technical Document (Technical Guidance Number 263-4500-601) *Closure Requirements for Underground Storage Tank Systems*. Specifically, the COCs are benzene, toluene, ethylbenzene, cumene (isopropylbenzene), methyl tert-butyl ether (MTBE), naphthalene, 124TMB, and 135TMB.

### **General SOW Requirements**

The Milestones presented below are separated into two categories; Base Scope of Work Milestones and Optional Milestones. The Base Scope of Work Milestones (Milestones A through G) represent the level of effort deemed reasonable to successfully characterize the site based on the characterization data available for the site. The Optional Milestones (Milestones H through M) represent additional activities that may be necessary to characterize the site. All bidders shall note that the initiation of any of the Optional Milestones will require approval from the Solicitor, ICF/PAUSTIF, and/or the Technical Contact.

The bidder's approach to completing the SOW shall be in accordance with generally accepted industry standards/practices and all applicable federal, state, and local rules, regulations, guidance, and directives. The latter include, but are not limited to, meeting the applicable 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 and 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; and
- Pennsylvania's Underground Utility Line Protection Law, Act 287 of 1974, as amended by Act 121 of 2008.

During completion of the milestone objectives specified below and throughout implementation of the project, the selected consultant shall:<sup>1</sup>

- Conduct necessary, reasonable, and appropriate project planning and management activities until the project (i.e., Remediation 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). 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 are necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements. 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. As appropriate, project management costs shall be included in each bidder's pricing to complete the milestones specified below.
- Be responsible for coordinating, managing, and completing the proper management, characterization, handling, treatment, and/or disposal of all impacted soils, water, and derivative wastes generated during the implementation of this SOW. The investigation-derived wastes, including purge water, shall be disposed in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to the Solicitor and the PAUSTIF upon request. All investigation derived wastes shall be handled and disposed per PADEP's Regional Office guidance. It is the selected consultant's responsibility to conform with current PADEP Regional Office guidance requirements in the region where the Site is located.
- Be responsible for providing the Solicitor and facility operator with adequate advance notice prior to each visit to the property. The purpose of this notification is to coordinate with the Solicitor and facility operator to ensure that appropriate

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<sup>1</sup> As such, all bids shall include the costs of these activities and associated functions within the quote for applicable tasks/milestones.

areas of the property are accessible. Return visits to the Site will not constitute a change in the selected consultant's SOW or result in additional compensation under the Remediation Agreement.

### **Site-Specific Guidelines**

As part of this RFB, the selected bidder shall consider the following site-specific guidelines.

#### **Scheduling**

- The selected bidder shall provide a schedule for which each milestone is expected to be completed (i.e., within 30 days from the execution of the Remediation Agreement).
- The selected bidder shall provide a 72-hour notification of all pending on-site work to the Solicitor.

#### **Responsibility**

- Upon execution of the Remediation Agreement, the selected bidder shall become the consultant of record for the Site and the Solicitor. It shall be expected that the selected bidder will represent the interest of the Solicitor and ICF/PAUSTIF during the execution of all aspects of the project associate with this RFB.

#### **Milestones Requiring Approval Prior to Initiation**

- The SOW contained within this RFB includes optional milestones that may not be reasonable and necessary for characterizing the Site based on information gathered by the selected bidder upon completion of the base scope of work milestones. For this reason, the selected bidder shall be required to obtain approval from the Solicitor, ICF/PAUSTIF, and/or the Technical Contact prior to initiating the optional milestones (listed below) and any sub-milestone to the optional milestones. The optional milestones are:
  - Milestone H – Supplemental Soil Groundwater Monitoring Well Installation and Development
  - Milestone I – Supplemental Bedrock Groundwater Monitoring Well Installation and Development
  - Milestone J – Supplemental Groundwater Sampling
  - Milestone K – Supplemental Soil Sampling
  - Milestone L – Professional Land Survey Update

## **Site-Specific Milestones**

### **BASE SCOPE OF WORK MILESTONES**

#### **Milestone A – Professional Land Survey**

All bidders are required to provide in Attachment 2 the cost to conduct a professional land survey of the site. The survey shall be conducted by a Pennsylvania-licensed land surveyor. The survey should include all principal site property features (including but not limited to: buildings, manholes, utility poles, and public utility valves) and the site's property lines and rights of way. It should include the elevations of wells and the basement floor. The professional land surveyor shall also verify (not survey) that the properties to the west, east, and south (beyond the Pennsylvania Turnpike) that are identified on Figure 2 as being owned by John F. Martin and Sons are owned by John F. Martin and Sons.

#### **Milestone B – Geophysical Survey**

All bidders are required to provide in Attachment 2 the cost to perform a geophysical survey of the area to be investigated by intrusive characterization activities. The geophysical survey shall be conducted prior to intrusive characterization activities described within this SOW.

The purpose of the geophysical survey is to attempt to identify and locate potential unknown USTs, conveyance lines, and other underground utilities and features in the investigation area. The extent of the geophysical survey is shown on Figure 5 in Attachment 3a. It is anticipated that at least electromagnetic (EM) and ground-penetrating radar (GPR) technologies would be employed.

#### **Milestone C – Soil Boring Installation and Sampling**

All bidders are required to provide in Attachment 2 the cost to perform a soil investigation on the site property. The selected bidder shall perform a soil investigation at the site to characterize the lateral and vertical extent of petroleum impacts to soil. Ten soil borings (SB-101 through SB-110) are proposed to characterize soil conditions at the site. The approximate locations of eight of the ten soil borings (SB-101 through SB-108) are shown on Figure 5 in Attachment 3a. The location of soil borings SB-109 and SB-110, if necessary, shall be determined at the discretion of the selected bidder, based on field observations made during the installation of soil borings SB-101 through SB-108, to allow for further vertical and/or horizontal investigation/delineation of suspected petroleum impacts.

The selected bidder shall refer to the results of the geophysical survey and any other utility mark out procedures (i.e., PA One Call, etc.) and the professional land survey prior to advancing the soil borings to avoid subsurface utilities, ensure the soil borings are on

the site property, and to validate the location of the soil borings relative to the components of the former UST system. In the event that any of the prescribed soil boring locations are to be modified significantly, the selected bidder shall notify ICF/PAUSTIF and/or the Technical Contact with justification to do so before proceeding.

The soil borings shall be drilled to the top of bedrock using hollow stem auger technology. For the purpose of this RFB, all bidders shall assume that competent bedrock is located at 13 fbg. Soil samples shall be collected from split spoons advanced ahead of the augers. Soil samples should be screened at two-foot intervals with a photoionization detector (PID) (using headspace measurements).

Continuous geological logs shall be prepared by a Professional Geologist licensed in the Commonwealth for each boring using a standard and consistent classification system procedure (Modified Burmister or USCS).

For the purpose of this RFB, the selected bidder shall assume that 18 soil samples shall be collected. For soil borings SB-101 through SB-110, the following samples shall be collected:

For Soil Boring SB-101 – One soil sample shall be collected. The soil sample shall be collected from the 9 to 11 fbg interval from the depth that corresponds to the highest PID reading. In the event there are no PID readings above background in this interval then the selected bidder shall collect a discrete soil sample from a depth between 10 and 11 fbg.

For Soil Boring SB-102 – One soil sample shall be collected. The soil sample shall be collected from the 5 to 7 fbg interval from the depth that corresponds to the highest PID reading. In the event there are no PID readings above background in this interval then the selected bidder shall collect a discrete soil sample from a depth between 6 and 7 fbg.

For Soil Borings SB-103 – SB-108 – Two soil samples shall be collected. The first soil sample shall be collected from the 5 to 7 fbg interval from the depth that corresponds to the highest PID reading. In the event there are no PID readings above background in this interval then the selected bidder shall collect a discrete soil sample from a depth between 6 and 7 fbg. The second soil sample shall be collected from the 9 to 11 fbg interval from the depth that corresponds to the highest PID reading. In the event there are no PID readings above background in this interval then the selected bidder shall collect a discrete soil sample from a depth between 10 and 11 fbg.

For Soil Borings SB-109 and SB-110 – The bidder shall collect two soil samples from each of the two borings from locations and depths selected in the field to acquire additional lateral and vertical data to delineate petroleum impacts to soil.

All soil samples shall be collected in laboratory-provided containers and analyzed by EPA Method 8260B for the substances listed in the COC section of this RFB.

In addition to the petroleum analytical samples, three discrete soil samples of representative soil types shall be collected from each of two soil borings and conveyed to a laboratory for grain size analysis, including quantification of silt and clay content and fraction organic carbon.

#### **Milestone D – Footer Drain Dye Testing and Groundwater Monitoring Well Installation, Survey, and Development**

Milestone D1 (described below) is for the performance of a dye test to investigate the discharge location of the foundation's French drain and Milestones D2 and D3 (described below) are for the installation, survey, and development of five soil groundwater monitoring wells (MW-101 through MW-105) and one bedrock groundwater monitoring well (MW-201). The purpose of the footer drain dye test is to determine where the foundation's French drain discharges groundwater (if groundwater is discharged from the drain) for the purposes of collecting samples of the discharge (Milestone F). The purpose of installing the soil groundwater monitoring wells is to characterize the extent of dissolved-phase concentrations of COCs in the soil aquifer. The purpose of installing the bedrock groundwater monitoring well is to determine the vertical hydraulic gradient in the vicinity of the release and to determine if dissolved phase COCs migrated to the bedrock aquifer.

The dye test will include the drilling of a boring, using hollow stem auger drilling techniques, adjacent to the east wall (outside) of the John F. Martin and Sons' main building to a depth coincident with the elevation of the basement of the building and the temporary installation of a PVC pipe. The selected bidder shall choose the location of the boring. Once the temporary pipe is installed in the boring, the selected bidder shall inject a non-toxic dye solution (e.g., fluorescein) into the pipe followed by copious amounts of water to flush the dye into the French drain and periodically observe the down-gradient property boundary for the dye. All bidders shall assume that water for flushing will be available from John F. Martin and Sons. Once the discharge is identified, the temporary PVC pipe will be removed and the boring will be properly abandoned. All bidders shall assume that the discharge will be identified. Milestone D1 shall be completed concurrent with the timeframe necessary to complete Milestones D2 and D3.

The locations of the proposed monitoring wells are shown on Figure 5 in Attachment 3a. The selected bidder shall refer to the results of the geophysical survey and any other utility mark out procedures (i.e., PA One Call, etc.) and the professional land survey prior to advancing the soil borings to avoid subsurface utilities, ensure the soil borings are on the site property, and to validate the location of the soil borings relative to the components of the former UST system. In the event that any of the prescribed

monitoring well locations are to be modified significantly, the selected bidder shall notify ICF/PAUSTIF and/or the Technical Contact with justification to do so before proceeding.

The soil groundwater monitoring wells shall be installed to the top of bedrock using hollow stem auger drilling techniques and each well shall be constructed of two-inch PVC materials with the screened interval straddling the water table. For the purposes of this RFB, all bidders shall assume that each soil groundwater monitoring well will be drilled to a total depth of 13 fbg and constructed of 9 feet of screen and 4 feet of riser. Well logs shall be prepared by a Professional Geologist for each boring using the same consistent classification system procedure used in Milestone C. All soil groundwater monitoring wells shall be completed at the surface with a securable manhole, set in concrete flush with the ground surface. A locking, pressure fit, watertight cap shall be used to prevent the infiltration of surface runoff and rainwater and to restrict unauthorized access.

The bedrock groundwater monitoring well shall be installed using either a compressor with an air hammer through augers or an air rotary drilling rig. For the purposes of this RFB, please assume that the bedrock groundwater monitoring well will be constructed of two-inch PVC material and installed to a total depth of 38 fbg with 20 feet of screen set at the bottom of the well. The shallow aquifer shall be sealed off from the bedrock aquifer with casing, set and grouted into the top five feet of bedrock. For the purposes of this RFB, please assume that the overburden aquifer and top five feet of bedrock will be cased off with 18 feet of casing. A well log should be prepared by a Professional Geologist for the bedrock groundwater monitoring well using the same consistent classification system procedure used in Milestone C. The bedrock groundwater monitoring well shall be completed at the surface with a securable manhole, set in concrete flush with the ground surface. A locking, pressure fit, watertight cap shall be used to prevent the infiltration of surface runoff and rainwater and to restrict unauthorized access.

The tops of casings of the soil and bedrock groundwater monitoring wells shall be vertically and horizontally surveyed by a licensed surveyor to allow for the calculation of groundwater elevations across the site.

Following their installation, the selected bidder shall develop the soil and bedrock groundwater monitoring wells in accordance with generally-accepted practices as outlined in the PADEP's Groundwater Monitoring Guidance Manual, dated December 1, 2001 (Document #383-3000-01).

**Milestone D1** – All bidders shall provide in Attachment 2 all reasonable and necessary costs to install a hollow stem boring, install temporary PVC pipe in the boring, perform

the dye test to identify the location of the French drain's discharge, and abandon the boring.

**Milestone D2** – All bidders shall provide in Attachment 2 all reasonable and necessary costs to install, survey, and develop the five soil groundwater monitoring wells (MW-101 through MW-105). The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, waste, etc.

All bidders shall provide in Attachment 2 (as part of Optional Milestone H3) the per foot cost to drill and construct the soil groundwater monitoring wells installed as part of this Milestone. In the event that it is reasonable and necessary to drill and construct one or more soil groundwater monitoring wells to a total depth greater than the assumed depth of 13 fbg, the per foot cost provided in Attachment 2 (as part of Optional Milestone H3) will be reimbursement for each additional foot of well installation for each monitoring well beyond the assumed depth.

**Milestone D3** – All bidders shall provide in Attachment 2 all reasonable and necessary costs to install, survey, and develop the bedrock groundwater monitoring well (MW-201). The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, waste, etc.

All bidders shall provide in Attachment 2 (as part of Optional Milestone I3) the per foot cost to drill and construct the bedrock groundwater monitoring well installed as part of this milestone. In the event that it is reasonable and necessary to drill and construct one or more bedrock groundwater monitoring well to a total depth greater than the assumed depth of 38 fbg, the per foot cost provided in Attachment 2 (as part of Optional Milestone I3) will be reimbursement for each additional foot of well installation for each bedrock groundwater monitoring well beyond the assumed depth.

#### **Milestone E – Hydraulic Testing of Soil Groundwater Monitoring Wells**

All bidders are required to provide in Attachment 2 the cost to perform single well hydraulic conductivity tests (so-called “slug tests”) in two soil groundwater monitoring wells. The selected bidder shall conduct both rising head and falling head tests in two soil groundwater monitoring wells installed in native material or material representative of subsurface conditions at the site. The aquifer test data shall be analyzed by a Professional Geologist using standard industry practices and applicable guidance.

#### **Milestone F –Groundwater, Water Supply Well, and French Drain Sampling**

All bidders shall provide in Attachment 2, the cost to perform two rounds of sampling at the site. Each sampling event shall include the collection of groundwater samples from the monitoring well network established in Milestone D (five soil groundwater monitoring wells and one bedrock groundwater monitoring well), the collection of samples from water supply wells WSW-3 and WSW-4, the collection of a sample from the sump in the

basement of the main building, and the collection of a sample from the dry weather flow (if any) from the French drain discharge identified by the dye test.

The first sampling event shall occur no sooner than two weeks following the completion of Milestone D and the second sampling event shall occur no sooner than 30 days following the first sampling event. Each sampling event shall include the comprehensive measurement of depths-to-water in the groundwater monitoring wells followed by the purging of each groundwater monitoring well prior to the collection of samples. Groundwater elevation gauging, purging, sampling, and analysis shall be conducted in accordance with generally accepted practices as outlined in the PADEP's Groundwater Monitoring Guidance Manual, dated December 1, 2001 (Document #383-3000-001). The samples collected from the groundwater monitoring wells, the sump, and the French drain shall be collected in laboratory-provided containers and analyzed by EPA Method 8260B for the substances listed in the COC section of this RFB. The samples collected from the water supply well shall be collected in laboratory-provided containers and analyzed by EPA Method 524.2 (drinking water methods) for the substances listed in the COC section of this RFB.

**Milestone G – Preparation of Site Characterization Report Addendum (SCR)**

All bidders shall provide in Attachment 2, the cost to prepare an SCR Addendum. Upon completion of the activities described in this SOW, the selected bidder shall prepare the SCR Addendum in accordance with 25 Pa Code §245.310. The SCR Addendum must be a standalone document with comprehensive data tables and figures. All files used in the preparation of this RFB will be made available to the successful bidder. The bidder may include by reference previous data in the bidder-prepared SCR Addendum. The selected bidder shall prepare the SCR Addendum in draft form for review and comment by the Solicitor and the PAUSTIF. The selected bidder's schedule shall provide two weeks for this review. The selected bidder shall address all of the comments received by the Solicitor and the PAUSTIF before submission of the SCR Addendum to the PADEP.

All bidders shall include in this milestone, the costs necessary to screen for the potential for vapor intrusion into buildings (e.g., using soil and groundwater chemistry data, presence and/ or thickness of soil-like material, basement depth, etc.). The purpose of the vapor intrusion screening is to determine whether additional vapor intrusion investigation activities are necessary to evaluate the vapor intrusion pathway. The vapor intrusion screening shall be conducted in accordance with the PADEP's new Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2 (VI TGM), which is reportedly scheduled to be effective in January 2017. For the purposes of this RFB, all bidders shall assume the level of effort necessary to perform the screening in accordance with the new VI TGM will be comparable to the level of effort to perform the screening in accordance with the

Draft VI TGM, dated June 13, 2016. Current information (e.g., approximate depths to water and the presence of a basement) suggests that numerical soil and groundwater screening values will not be applicable.

If the selected bidder determines that vapor intrusion sampling is necessary, the selected bidder shall present the results of their vapor intrusion screening to ICF/PAUSTIF and/or the Technical Contact for evaluation. In the event that vapor intrusion sampling is reasonable and necessary, the work will be performed under a modification to the Remediation Agreement.

Prior to starting the SCR Addendum, the selected bidder shall contact the Solicitor to present the characterization data to the Solicitor and discuss all of the remedial standard options for the Site. Following the Solicitor's remedial standard selection, the selected bidder shall prepare an SCR Addendum that documents and discusses the data obtained and the conclusions drawn from the completion of the work contained within this RFB. Tables, figures, and other attachments that support the text shall include but not be limited to the following:

- The results of the geophysical survey;
- An evaluation of vapor intrusion;
- A receptor survey for potential future remedial actions that include, but is not limited to:
  1. A review of the PA Groundwater Information System (PAGWIS) records available from the PA Topographic and Geologic Survey website. This task shall include plotting all recorded wells within a ½-mile radius of the Site on a scaled map and including a copy of the database records for the search distance in an appendix to the SCR; and
  2. A review of the Pennsylvania Natural Diversity Inventory (PNDI) to evaluate for the presence of special concern species and resources.
- Comprehensive groundwater elevation data in table form;
- Comprehensive groundwater sampling results in table form;
- Comprehensive soil sampling results in table form;
- Comprehensive soil vapor and/or indoor air and/or sub-slab vapor sampling results in table form (if applicable);
- Scaled figures showing the location of monitoring wells, soil samples, and indoor air and/or vapor samples (if applicable);
- Scaled figures for each round of groundwater elevation data collection showing groundwater elevations, groundwater elevation contours, and inferred direction(s) of groundwater flow;
- Scaled figures for each analyte found to be above the Solicitor-selected remedial goal for each round of groundwater sampling. Each figure should

show analyte concentrations in each well and inferred dissolved-phase analyte plume contours;

- Laboratory reports, chains of custody, and field sampling documentation for all media sampled as part of characterization;
- Logs for all soil borings and monitoring wells including well construction logs;
- If necessary, clearly defined additional investigation work proposed for the characterization of the Site.

## **OPTIONAL MILESTONES**

### **Milestone H – Supplemental Soil Groundwater Monitoring Well Installation and Development (Optional Milestone)**

In the event that additional soil groundwater monitoring wells are necessary to characterize dissolved-phase concentrations of COCs in the soil aquifer at the site, all bidders are required to provide in Attachment 2 the cost to install and develop an additional soil groundwater monitoring well. All bidders shall assume that all supplemental soil groundwater monitoring wells will be installed, constructed, and developed in accordance with the methodology described in Milestone D. The activation of this Milestone will require the prior approval of ICF/PAUSTIF and/or the Technical Contact.

***Milestone H1*** –All bidders shall provide in Attachment 2 all reasonable and necessary costs to install and develop one soil groundwater monitoring well. The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, waste, etc.

***Milestone H2*** – All bidders shall provide in Attachment 2 all reasonable and necessary costs to install an additional soil groundwater monitoring well as an add-on to Milestone H 1 (which already accounts for mobilization costs). The costs included in Attachment 2 shall include all subcontractors, labor, equipment, waste, etc.

***Milestone H3*** – All bidders shall provide in Attachment 2 the per foot cost to drill and construct the soil groundwater monitoring wells installed as part of Milestones D and Milestones H1 and H2. In the event that it is reasonable and necessary to drill and construct one or more soil groundwater monitoring well to a total depth greater than the assumed depth of 13 fbg, the per foot cost provided in Attachment 2 will be reimbursement for each additional foot of well installation for each monitoring well beyond the assumed depth.

**Milestone I – Supplemental Bedrock Groundwater Monitoring Well Installation and Development (Optional Milestone)**

In the event that additional bedrock groundwater monitoring wells are necessary to characterize dissolved-phase concentrations of COCs in the bedrock aquifer at the site, all bidders are required to provide in Attachment 2 the cost to install and develop an additional bedrock groundwater monitoring well. All bidders shall assume that all supplemental bedrock groundwater monitoring wells will be installed, constructed, and developed in accordance with the methodology described in Milestone D. The activation of this Milestone will require the prior approval of ICF/PAUSTIF and/or the Technical Contact.

***Milestone I1*** –All bidders shall provide in Attachment 2 all reasonable and necessary costs to install and develop one bedrock groundwater monitoring well. The costs included in Attachment 2 shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, waste, etc.

***Milestone I2*** – All bidders shall provide in Attachment 2 all reasonable and necessary costs to install an additional bedrock groundwater monitoring well as an add-on to Milestone I1 (which already accounts for mobilization costs). The costs included in Attachment 2 shall include all subcontractors, labor, equipment, waste, etc.

***Milestone I3*** – All bidders shall provide in Attachment 2 the per foot cost to drill and construct the bedrock groundwater monitoring wells installed as part of Milestones D and Milestones I1 and I2. In the event that it is reasonable and necessary to drill and construct one or more bedrock groundwater monitoring well to a total depth greater than the assumed depth of 38 fbg, the per foot cost provided in Attachment 2 will be reimbursement for each additional foot of well installation for each monitoring well beyond the assumed depth.

**Milestone J – Supplemental Groundwater Sampling (Optional Milestone)**

The purpose of this milestone is to allow for the performance of additional sampling events (beyond the two groundwater sampling events specified in Milestone F) if deemed necessary. All samples shall be collected and analyzed in accordance with the methodology described in Milestone F. The activation of Milestones J1, J2, J3, J4, and J5 (described below), will require the prior approval of ICF/PAUSTIF and/or the Technical Contact.

***Milestone J1*** – All bidders shall provide in Attachment 2 the cost to complete one comprehensive sampling event that includes the monitoring wells installed as part of Milestone F (MW-101 through MW-105 and MW-201), water supply wells WSW-3 and WSW-4, the sump, and the French drain. The costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, waste, etc.

**Milestone J2** – All bidders shall provide in Attachment 2 the cost to collect one additional groundwater sample from one soil groundwater monitoring well as an add-on to Milestone J1 (which already accounts for mobilization costs). The costs shall include all subcontractors, labor, equipment, waste, etc. and will be used to modify as necessary the reimbursement for Milestone J1 in the event that more or less soil groundwater monitoring wells are sampled during a groundwater sampling .

**Milestone J3** – All bidders shall provide in Attachment 2 the cost to collect one groundwater sample from one bedrock groundwater monitoring well as an add-on to Milestone J1 (which already accounts for mobilization costs). The costs shall include all subcontractors, labor, equipment, waste, etc. and will be used to modify as necessary the reimbursement for Milestone J1 in the event that more or less bedrock groundwater monitoring wells are sampled during a groundwater sampling event.

**Milestone J4** – All bidders shall provide in Attachment 2 the cost to collect one sample from one of the site's water supply wells as an add-on to Milestone J1 (which already accounts for mobilization costs). The costs shall include all subcontractors, labor, equipment, waste, etc. and will be used to modify as necessary the reimbursement for Milestone J1 in the event that more or less water supply wells are sampled during a groundwater sampling event.

**Milestone J5** – All bidders shall provide in Attachment 2 the cost to collect one sample from the French drain as an add-on to Milestone J1 (which already accounts for mobilization costs). The costs shall include all subcontractors, labor, equipment, waste, etc. and will be used to modify as necessary the reimbursement for Milestone J1 in the event that more or less French drain samples are collected during a groundwater sampling event.

**Milestone K – Supplemental Soil Sampling (Optional Milestone)**

The purpose of this milestone is to allow for the collection of additional soil data in the event that Milestone C does not sufficiently delineate petroleum impacts to soil. The activation of this milestone will require the prior approval of ICF/PAUSTIF and/or the Technical Contact. For the purposes of this RFB, all bidders shall assume that the supplemental soil samples collected as part of this milestone shall be collected via direct-push soil borings advanced up to 13 fbg. All soil samples shall be collected in laboratory-provided containers and analyzed by EPA Method 8260B for the substances listed in the COC section of this RFB. Soil samples should be screened at two-foot intervals with a PID (using headspace measurements) and continuous geological logs shall be prepared by a Professional Geologist for each boring using the same consistent classification system procedure described in Milestone C.

**Milestone K1** – All bidders shall provide in Attachment 2 the cost to complete one direct push soil boring with the collection and analysis of one soil sample. The costs shall include, but not be limited to, mobilization, labor, equipment, subcontractors, waste, etc.

**Milestone K2** – All bidders shall provide in Attachment 2 the cost to advance an additional soil boring with the collection and analysis of one soil sample as an add-on to Milestone K1 (which accounts for mobilization costs). The costs shall include all subcontractors, labor, equipment, waste, etc.

**Milestone K3** – All bidders shall provide in Attachment 2 the cost for the collection and analysis of one additional soil sample from a soil boring accounted for in Milestone K1 and/or K2 as a cost adder to Milestone K1 and/or K2.

**Milestone L – Professional Land Survey Update (Optional Milestone)**

All bidders shall provide in Attachment 2 the cost to update the professional land survey. The update shall include, but not be limited to the vertical and horizontal locations of monitoring well casings installed as part of Optional Milestones. The activation of this milestone will require the prior approval of ICF/PAUSTIF and/or the Technical Contact.

**Additional Information**

In order to facilitate PAUSTIF’s review and reimbursement of invoices submitted under this claim, the Solicitor requires that project costs be invoiced by the milestone identified in the executed Remediation Agreement. Actual milestone payments will occur only after successful and documented completion of the work defined for each milestone. The selected consultant will perform only those tasks/milestones that are necessary to reach the Objective identified in this RFB. Selected consultant will not perform, invoice, or be reimbursed for any unnecessary work completed under a milestone.

Any “new conditions”, as defined in Attachment 1, arising during the execution of the SOW for any of the milestones may result in termination of or amendments to the Remediation Agreement. Modifications to the executed Remediation Agreement will require the written approval of the Solicitor and the PAUSTIF. PADEP approval may also be required.

## List of Attachments

1. Remediation Agreement
2. Bid Cost Spreadsheet
3. Site Information/Historic Documents
  - a. Figure 1 – Site Location Map
  - Figure 2 – Site Map
  - Figure 3 – Cross Section A-A'
  - Figure 4 – Site Detail Map
  - Figure 5 – UST Excavation and Soil Sampling Map
  - b. February 29, 2016 Site Characterization Report
  - c. March 22, 2016 PADEP SCR Approval Letter
  - d. UST Closure Report
  - e. Soil Sampling Results Table
  - f. Water Sampling Results Table