

# **Request for Bid**

**Fixed-Price Defined Scope of Work**

**Site Characterization Activities**

## **Solicitor**

**740 Mill Creek of PA LLC**

**Mill Creek Sunoco**

**7040 Mill Creek Road  
Levittown, PA 19057-4002**

**PADEP Facility ID #: 09-43609      PAUSTIF Claim #: 20230041(I)**

## **Date of Issuance**

**October 11, 2024**

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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 Mill Creek Sunoco (Facility) located at 7040 Mill Creek Road, Levittown, Bucks County, PA 19057-4002. The Solicitor is the current owner/operator of the Facility. 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. The solicitor is responsible to pay any applicable deductible and/or proration.

The Solicitor wishes to execute a mutually agreeable contract ("Remediation Agreement") with the selected consultant. The selected consultant will be provided with an electronic copy of the draft Remediation Agreement (Attachment 1) in Microsoft Word format. The selected consultant shall complete the agreement-specific portions of the draft Remediation Agreement and return the document to the Technical Contact (also known as TPR) within 10 business days from date of receipt. The Remediation Agreement fixed costs shall be consistent with bidder's costs presented in the Bid Cost Submission Form. 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 in accordance with the terms and conditions in the executed Remediation Agreement and determined to be reasonable and necessary for PAUSTIF funding. There may be deviations from and modifications to the SOW during the project; changes to the SOW will require approval by the Solicitor, PAUSTIF (for funding), and Pennsylvania Department of Environmental Protection (PADEP), if applicable; and, must be agreed upon in writing by both parties to the agreement in accordance with the terms and conditions of the executed Remediation Agreement. Added costs resulting from bid errors, omissions, or faulty assumptions will not be considered for PAUSTIF reimbursement.

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>.

Each bid is assumed valid for a period of up to 180 days after receipt unless otherwise noted.

# Calendar of Events

<b>Activity</b>	<b>Date and Time</b>
Notification of Intent to Attend Site Visit	October 25, 2024 by 5 p.m.
Mandatory Pre-Bid Site Visit	October 28, 2024 at 11 a.m.
Deadline to Submit Questions	November 13, 2024 by 5 p.m.
Bid Due Date and Time	November 22, 2024 by 3 p.m.

## Contact Information

<b>Technical Contact</b>
<p><b>Christopher D. O’Neil, P.G.</b> <b>Groundwater Sciences Corporation</b> <b>2550 Interstate Drive, Suite 303</b> <b>Harrisburg, PA 17110</b> <b>coneil@groundwatersciences.com</b></p>

All questions regarding this RFB and the subject Facility 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 “[insert Facility name and claim number provided on cover page] – RFB QUESTION”. Bidders must neither contact nor discuss this RFB with the Solicitor, PAUSTIF, PAUSTIF’s third party administrator (TPA), or the PADEP, unless approved by the Technical Contact. Bidders may discuss this RFB with subcontractors and vendors to the extent required for preparing the bid response. Questions and their respective answers will become part of the RFB, which in turn, will become part of the Remediation Agreement. Bidders are responsible to monitor questions and answers and address any changes, modifications or clarifications made to the RFB as a result of the questions and answers.

## **Requirements**

### **Mandatory Pre-Bid Site Meeting**

On behalf of 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 will 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 Facility 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 "[insert Site name and claim number provided on cover page] – 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. Changes to the site meeting date and/or time due to inclement weather conditions or other unexpected circumstances will be posted at <https://ustif.pa.gov/bids>; and the Technical Contact may notify via email all companies that provided Site Meeting Attendance Notification.

### **Submission of Bids**

An electronic .pdf version of the signed bid package must be submitted to RA-Bid-Submission@icf.com by the bid due date and time in the Calendar of Events. Bid cost spreadsheets may be submitted in Microsoft Excel format. File sizes in excess of 5 MB are to be submitted using a file share service of your choosing. If you do not have access to a file share service, an email must be sent to RA-Bid-Submission@icf.com, at least 24 hours prior to the bid due date and time, to request access to PAUSTIF's TPA file share service. Reply messages will be sent to acknowledge receipt of emails. Bid responses will only be accepted from those companies that attended the Mandatory Pre-Bid Site Meeting. Bids attempted to be submitted through ground services such as USPS, UPS, Fed-Ex, etc. or hand delivery will not be considered for selection. PAUSTIF, in its discretion, reserves the right to reject or allow correction to bid submissions that are substantively deficient in some manner, but any late submission shall be rejected.

The bid must be received by 3:00 p.m., on the due date shown in the Calendar of Events. Bids will be opened immediately after the 3:00 p.m. deadline on the due date. Any bids received after this due date and time will be returned. If, due to inclement weather, natural disaster, or any other cause, the deadline for submission may be extended, the PAUSTIF's TPA may notify all companies that attended the Mandatory Pre-Bid Site Meeting of an extended due date. The 3:00 p.m. hour for submission of bids shall remain the same.

## **Bid Requirements**

Each bid must include at least the following in the order listed below. These bid requirements will be considered during the administrative evaluation of the bid consistent with the PAUSTIF Competitive Bid Fact Sheet.

This defined SOW RFB has an increased emphasis placed on cost and a reduced emphasis on technical approach (as compared to “Bid to Result” RFBs). However, qualifications, experience, completeness, procedures, and a demonstrated understanding of project objectives and potential challenges discussed in the proposals are factors that are considered to be important for bid evaluation.

1. Bid Submission Coversheet
  - a. The Bid Submission Coversheet (Attachment 2) must be completed, signed by an authorized representative of the company, and included as the first page of the bid.
  - b. The name and contact information of the person who is to be contacted in the event clarification is required and/or the bid is selected by the Solicitor must be listed on the Bid Submission Coversheet.
  
2. A technical submittal that includes:
  - a. Demonstration of the bidder’s understanding of the information provided in this RFB, standard industry practices, and objectives of the project.
  - b. A clear description, including specific details and original language of how the SOW will be completed for each milestone. The bid should address each milestone and specifically discuss all tasks to be completed under the Remediation Agreement (e.g., explain groundwater purging/sampling methods, which guidance documents will be followed, what will be completed as part of the site-specific SOW/SCR/RAP implementation). Bidders must bid the SOW as requested in this RFB. Recommendations for changes/additions to the SOW shall be emailed to the Technical Contact prior to the deadline to submit questions in the Calendar of Events. Failure to bid the SOW “as is”, including any changes or additions communicated by the Technical Contact (see Contact Information on page 3), will ultimately result in a lower technical score or may be rejected altogether. Bids should include enough original language conveying bidder’s thought so that the understanding of site conditions, closure approach (if applicable), and approach to addressing the SOW can be evaluated. This includes discussion on bidder’s understanding of the conceptual site model and potential issues or challenges that may be encountered. Since bidders are not prequalified, the bid response must provide the Bid Evaluation Committee and Solicitor with enough information to complete a thorough review of the bid and bidder. Bids that simply mimic the RFB language will receive a lower technical score.
  - c. A description of subcontractor involvement by task.

- d. A detailed schedule of activities for completing the SOW including reasonable assumptions regarding the timing and duration of Solicitor and/or PAUSTIF reviews (if any) needed to complete the SOW. Each bid must include a schedule that begins with execution of the Remediation Agreement with the Solicitor and ends with completion of the final milestone identified in this RFB. Schedules must also indicate the approximate start and end date of each of the tasks/milestones specified in the SOW and indicate the timing of all base milestone activities (e.g., within 30 days of the contract being executed).
- e. A description of how the Solicitor, and the PAUSTIF (through their TPA) 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.
- f. A description of bidder's approach to working with the PADEP. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP will be kept informed of activities at the Facility.
- g. Do not include in the technical submittal any costs or assumptions that would modify the costs provided on the Bid Cost Submission Form or Remediation Agreement.

### 3. Required Responses Submission Form

- a. The bidder must indicate on the Required Responses Submission Form (Attachment 3) if the draft Remediation Agreement is accepted with no changes. If changes or assumptions are proposed, the bidder must identify and document proposed modifications to the draft Remediation Agreement language other than obvious modifications to fit this RFB (e.g., names, dates, and descriptions of milestones). Key exceptions, assumptions, or special conditions applicable to the SOW and/or used in formulating the cost estimate that the bidder proposes as modifications to the draft Remediation Agreement must be identified and listed on the Required Responses Submission Form. The number and scope of any modifications to the draft Remediation Agreement language must be listed on the Required Responses Submission Form. Proposed modifications may include, but are not limited to, terms and conditions, Exhibits A and B, Site-Specific Assumptions and Provisions; and will be one of the criteria used to evaluate the bid. Proposed modifications determined to be acceptable by both the Solicitor and PAUSTIF (for funding) will be incorporated into the final Remediation Agreement with the selected consultant.
- b. Provide detailed responses to each item under Qualifications and Experience.
- c. The names and brief resumes of the proposed project team including the licensed Professional Geologist and/or licensed Professional Engineer (as applicable) who will be responsible for overseeing the work and applying a professional seal to the project deliverables. Resumes should directly follow the Required Responses Submission Form.
- d. The names and addresses of all subcontractors.
- e. Bidding company's statement of qualifications.



- f. Bidding company's standard operating procedures for all tasks included in the SOW.
4. A copy of an insurance certificate that shows the bidder's level of insurance consistent with the requirements of the draft Remediation Agreement. Note: The selected consultant shall submit evidence to the Solicitor before beginning work that they have procured and will maintain insurance coverage commensurate with the level stated in the draft Remediation Agreement and for the SOW.
5. Bid Cost Submission Form
- a. An authorized representative of the bidding company must sign the Bid Cost Submission Form (Attachment 4).
  - b. The bidder shall provide its bid cost only in the Bid Cost Submission Form with descriptions for each task provided in the body of the bid technical document. No cost information should be provided in the technical submittal.
  - c. Bidders are responsible for ensuring all costs are provided in the Bid Cost Submission Form, and calculations (including, but not limited to the total bid cost) are accurate. Added costs resulting from bid errors, omissions, or faulty assumptions will not be considered for PAUSTIF reimbursement.
  - d. The technical score for bids will be based solely on those tasks represented as milestones included in the Bid Cost Submission Form and the total bid cost.
  - e. The costs quoted in the Bid Cost Submission Form will be assumed to be valid for the duration of the Remediation Agreement executed with the selected consultant.
  - f. 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.
  - g. 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 the bid should be developed using bidder's 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.
  - h. Bidders are required to include, as backup for the Bid Cost Submission Form the following items:
    - i. A detailed breakdown of each milestone fixed cost including, but not limited to, labor rates and hours, subcontractor costs and mark-up, direct costs, and equipment; and
    - ii. Actual cost quotations/bids/proposals from all significant specialized subcontracted service providers (e.g., drilling/well installations, laboratory, etc.).

## **General Site Background and Description**

Each bidder should carefully review the existing information and documentation provided in Attachment 5. The information and documentation have not been independently verified. Bidders may wish to seek out other appropriate sources of public information and documentation specific to this Facility. If there is any conflict between the general site background and description provided herein and the source documents within Attachment 5, the bidder should defer to the source documents.

### **Facility Name and Address**

Mill Creek Sunoco, 7040 Mill Creek Road, Levittown, PA 19057-4002.

### **Facility Description**

As shown in Figure 1, the facility is a Sunoco-branded retail fueling station and convenience store located at the intersection of Mill Creek Road and Edgley Road (State Highway #2033), in Levittown, Bristol Township, Bucks County, Pennsylvania (figures are in Attachment 5a). The 0.25-acre facility property (Bucks County Parcel ID 05-042-056) is surrounded by roads and commercial/residential properties (Figure 2). The facility is connected to municipal water and sewer.

The unleaded gasoline underground storage tank (UST) system associated with PAUSTIF claim 20230041(l) is in the northeast portion of the facility (Figure 3). According to the PADEP storage tank database, three active USTs exist at the facility (Tanks 004, 005, and 006) and five closed USTs existed at the facility (Tanks 001, 002, 003, 007, and 008).

### **1989 Release Description**

In November 1989, petroleum-impacted groundwater was discovered at the former UST systems during a Phase I Investigation. The facility was a Mobil-branded retail fueling station at the time of the investigation. PADEP Incident No. 6351 was assigned to the release in February 1990 (Figure 3). PAUSTIF Claim 2002-0076 was submitted for this release and denied eligibility because groundwater impact was evident prior to the commencement of PAUSTIF operations in February 1994.

In November 1989 through December 1999, corrective action process activities were performed by Exxon Mobil to address the release. In February 2002, an Act 2 Closure Request (similar to a Remedial Action Completion Report under 25 Pa. Code § 245.313) was submitted to PADEP. In April 2002, PADEP issued a letter approving the request and granting a release of liability for groundwater using a combination of the Statewide health standard (SHS) and site-specific standard (SSS). PADEP did not grant a release of liability for soil because it was not fully characterized.

The Act 2 Closure Request and PADEP approval letter indicate that a petroleum hydrocarbon release from a former UST system was discovered at the former CITGO station to the north of the facility (Figure 2). Additionally, impacted groundwater from the release at the former CITGO was determined to have migrated to the south (downgradient) and comingled with impacted groundwater from the release at the facility.

Attachment 5b includes copies of the Act 2 Closure Request and PADEP approval letter for the facility.

No monitoring wells from the 1989 release investigation exist at the facility.

### **2023 Release Description**

In March 2023, PADEP was notified of a confirmed release of unleaded gasoline at the facility. The release occurred from the product pipeline for Tank 006 at the location shown on Figure 3. PADEP Incident No. 58718 and PAUSTIF Claim 20230041(I) were assigned to the release.

### **Former CITGO Station Property**

The petroleum hydrocarbon release at the former CITGO station was discovered in December 1998. PADEP Incident No. 5240 was assigned to the release.

In May 2006, a Remedial Investigation Report and Cleanup Plan (RIR-CUP) was prepared for the release at the former CITGO station. The report, a copy of which is included in Attachment 5c, indicates the investigation was initiated to “...*determine whether an increase in dissolved methyl tertiary butyl ether (MTBE) in monitoring wells on the adjacent Mobil retail station originated from the CITGO station property.*” The investigation documented unleaded gasoline impact to soil and groundwater, and SPL from sources at the former CITGO station. The installation of monitoring wells was recommended in the RIR-CUP to delineate the off-site extent of groundwater impact and monitoring was proposed to demonstrate attainment of a combination of the SHS and SSS for groundwater. The report did not opine on whether MTBE at the Mobil station originated from the CITGO station.

An update on the remedial investigation activities performed to address the release at the former CITGO station is documented in the Remedial Action Progress Report (RAPR) for 2nd Quarter 2024 in Attachment 5c. The RAPR documents groundwater monitoring conducted from November 1999 through April 2024 at on- and off-Site monitoring wells MW-1 through MW-7, on-Site injection wells IW-1 through IW-5, and on-Site soil-vapor extraction well SVE-1. The RAPR indicates the remediation goal for the release is to document stable or decreasing trends of all substances during ongoing quarterly monitoring and reporting activities.

### **Characterization and Interim Remedial Activities**

A Site Characterization Report (SCR) has not been prepared for the 2023 release at the facility. Corrective action process activities performed to address the 2023 release are as follows:

- In May 2023, soil samples were collected from borings SB-1 through SB-6 and vapor points VP-2 and VP-3. Soil gas samples were also collected from VP-1 through VP-4 in May 2023.
- In July 2023, MW-8, MW-9, and MW-10 were installed.
- In August and December 2023, groundwater samples were collected from MW-8, MW-9, and MW-10.
- In March 2024, a geophysical survey was completed, MW-11 through MW-15 were installed, a soil sample from boring SB-7 was collected, and sub-slab soil gas points SS-1 and SS-2 were installed and sampled.
- In April 2024, groundwater samples were collected from MW-8 through MW-11, MW-13, MW-14, and MW-15. Separate-phase liquid (SPL) was measured in MW-12 and tank field observation well OB-1 and an adsorbent sock was installed in MW-12 for passive recovery of SPL. Site features and MW-8 through MW-15 were also professionally surveyed.

Sample locations are shown in Figure 4. Note that MW-15 and a dewatering sump are located on the adjacent apartment building property (Bucks County Parcel ID 05-042-055-001). Documentation for the above activities is included in Attachment 5d.

### **Geology and Hydrogeology**

Soil at the facility is mapped by the United States Department of Agriculture (USDA) as Urban Land – Matapeake complex that is described as silt loam and gravelly sandy loam. Bedrock is mapped as the Wissahickon Formation (schist) and Mafic Gneiss.

As shown on the logs in Attachment 5e, unconsolidated materials encountered during drilling of soil borings and monitoring wells were described as sand.

In August 2023, December 2023, and April 2024, depth to groundwater measurements in the monitoring wells ranged from three to seven feet below top of well casing (BTOC) (Attachment 5d). As shown in Figure 5, the inferred direction of groundwater flow on April 2, 2024, is toward the east.

### **Soil Quality**

Soil sample analytical data is provided in Attachment 5f. As shown on Figure 6, no detected concentrations of unleaded gasoline short-list parameters in the samples exceeded the PADEP non-residential used aquifer SHS medium-specific concentrations (MSCs). No soil samples were collected at depths shallower than five feet below ground surface (bgs).

### **Groundwater Quality**

Groundwater sample analytical data is provided in Attachment 5g. Groundwater at MW-12, adjacent to the south side of the existing USTs, was not sampled in April 2024 because it contained 0.06 feet of SPL. No SPL has been reported in the other monitoring wells.

Figure 7 shows groundwater sample locations and compares the detected unleaded gasoline short-list parameters in the April 2024 samples to the PADEP non-residential used aquifer SHS MSCs. The highest detected concentrations of these parameters were reported in the sample from MW-11 adjacent to the east side of exiting UST field. Sample locations with concentrations greater than MSCs during the April 2, 2024, sampling event are as follows:

1. MW-8 - benzene,
2. MW-9 - benzene and naphthalene,
3. MW-10 - benzene, and
4. MW-11 - benzene, toluene, ethylbenzene, xylenes (total), and 1,2,4-trimethylbenzene (124TMB).

### **Soil Gas Quality**

Soil gas sample analytical data for VP-1 through VP-4, SS-1, and SS-2 is provided in Attachment 5h. As shown on Figure 8, the detected concentrations of unleaded gasoline short-list parameters in the VP-1, VP-2, VP-3, SS-1, and SS-2 samples were below the PADEP non-residential sub-slab soil gas SSS vapor intrusion screening values. At VP-4, only benzene was detected at a concentration greater than the SSS screening values (i.e., 1,490 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) versus  $200 \mu\text{g}/\text{m}^3$ ).

Limited information is available regarding the construction of the sub-slab points and procedures used to collect the soil gas samples. Based on observations by Groundwater Sciences Corporation (GSC) of the poor condition of vapor points VP-1 through VP-4, their potential future use to collect representative soil-gas samples is not recommended. Potential future use of sub-slab soil gas points SS-1 and SS-2 is not possible because the points no longer exist inside the convenience store building.

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

This RFB seeks competitive bids from qualified contractors/consultants to perform the activities in the SOW specified herein. On July 5, 2024, the PADEP case manager (Rebecca Flannery) reviewed the SOW. The SOW was updated to address comments from PADEP.

### **Objective**

The objective of this RFB is to obtain fixed-price proposals to complete site characterization activities following this SOW. The SOW consists of investigating subsurface conditions associated with the 2023 unleaded gasoline release and preparing a SCR in accordance with 25 Pa. Code § 245.310. The remedial goal is attainment of the SSS for soil and groundwater.

Following completion of the SOW in this RFB, remaining corrective action process 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 remediation agreement.

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

The COCs for this Site are the PADEP unleaded gasoline short-list parameters (benzene, toluene, ethylbenzene, xylenes [total], isopropylbenzene [cumene], MTBE, naphthalene, 1,2,4-trimethylbenzene [1,2,4-TMB], and 1,3,5-trimethylbenzene [1,3,5-TMB]).

### **General SOW Requirements**

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, Title 25, Chapter 250 - Administration of Land Recycling Program; and
- The PADEP Land Recycling Program Technical Guidance Manual dated March 27, 2021 (Technical Guidance Document 261-0300-101); 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, the selected consultant shall:<sup>1</sup>

- Conduct necessary, reasonable, and appropriate project planning and management activities. Such activities may include Solicitor communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control (QA/QC), scheduling, and other activities (e.g., utility location). 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. 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 Facility 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 areas of the property are accessible. Return visits to the Facility will not constitute a change in the selected consultant's SOW or result in additional compensation under the Remediation Agreement.

### Site-Specific Guidelines

- **Field Work:** Provide 72-hour advance notification to the Solicitor prior to initiating field work activities. Field activities should be conducted Monday through Friday between 8:00 AM to 5:00 PM, unless authorized by the Solicitor.

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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.

- **Safety Measures:** Each bidder should determine the level of safety measures needed to appropriately complete the work. If a bidder believes it is appropriate and necessary to implement safety measures other than or beyond what is required in the SOW, it should be included in their bid response and fixed-price cost. If a bidder includes costs to conduct specific safety measures or activities, the bidder should specify it in the bid response and discuss why it is appropriate and necessary and indicate which methods will be utilized and to what extent. Cost is not the only factor when evaluating proposals and other factors are taken into consideration during the review process, including appropriate safety measures.
- **Waste Disposal:** All investigation-derived waste (IDW) should be stored, handled, and disposed of per the instructions included in the “General SOW Requirements” section of the RFB. Bidders will be responsible for arranging any offsite waste disposal (if required) and including costs in their bid response to cover the handling, transportation, and disposal of all potential waste related to the milestones included in the SOW unless the RFB or Remediation Agreement specifies otherwise. Except for IDW volumes specified in Milestones B and H and Optional Milestone R, PAUSTIF will not entertain any assumptions in the Remediation Agreement concerning a volume of waste. Bidders will be responsible for including costs in their bid to cover the handling, transportation, and disposal of all potential waste related to the milestones included in the SOW. Bidders should estimate the volume or mass, as appropriate, of waste using their professional opinion, experience, and the data provided. If the bid proposes to dispose of waste under a permit, then the bid needs to address the potential situation of a permit not being approved. Invoices submitted to cover additional costs on waste generated as part of the SOW will not be reimbursed.
- **Milestones Requiring Approval Prior to Initiation:** This RFB includes Optional Milestones K through V that may not be reasonable and necessary to perform based on the information gathered by the selected consultant upon completion of the SOW for Site-Specific Milestones A through J. Therefore, the selected consultant shall obtain approval from the Solicitor and PAUSTIF (for funding consideration) prior to initiating the optional milestones except that pre-approval is not required for Optional Milestones L3, M, P3, Q1 through Q5, and R3, R4, and R5.

### **Site-Specific Milestones**

Bidders shall provide costs for each Milestone in Attachment 4. The cost for each Milestone shall include, but not be limited to, all mobilizations, subcontractors, labor, equipment, expenses, and waste handling.

**Milestone A – Obtain Property Access.** Secure authorization to access properties to complete corrective action process activities (e.g., monitoring well installations, surveying, gauging, and sampling activities). This milestone shall consist of the following:



- Obtaining approval from the owner of the apartment building property (Bucks County Parcel ID 05-042-055-001) located to the south of the Facility to access monitoring well MW-15 and the building dewatering sump (Figure 4).
- Obtaining approval from the owner of the Aldi Foods property (Bucks County Parcel ID 05-042-116-001) located to the east of the Facility for access to install and sample proposed monitoring wells MW-16, MW-17, and MW-18 (Figure 9).
- Obtaining approval from CITGO Petroleum Corporation and the owner of the former CITGO station property (Bucks County Parcel ID 05-042-052) located to the north of the Facility for access to survey existing monitoring wells MW-2, MW-3, MW-4, and IW-1 (Figure 9).
- Obtaining approval from the Pennsylvania Department of Transportation (PennDOT) (e.g., highway occupancy permit or right-of-entry agreement) to install and sample proposed monitoring well MW-21 within the right-of-way (ROW) (Figure 9). Note that a PennDOT security fee is typically waived on PAUSTIF claims. The selected consultant shall notify PAUSTIF, through their TPA, if a letter from PAUSTIF is required to waive the fees.

The cost for this milestone shall include the necessary effort to contact the property owners and PennDOT representatives (verbally and/or in writing), answering questions from the representatives and preparing, submitting, and executing documentation.

Access activities shall be initiated within 10 days of Remediation Agreement (RA) execution. A status update on access activity progress shall be provided in writing to the Solicitor and PAUSTIF within 30 days of RA execution. If after 30 days of initial contact, access is not secured or about to be secured, assistance to obtain access shall be requested from PADEP, including providing information to PADEP to facilitate their assistance.

The schedule for this milestone shall provide one week for Solicitor and PAUSTIF review of the draft access documentation. Final access documentation shall address comments received from the Solicitor and PAUSTIF on the draft documentation. Providing this cost does not commit the selected consultant to obtaining access.

Optional Cost Adder Milestone K will be used if access is not approved by the owner of the Aldi Foods property to install MW-16, MW-17, and MW-18 in the PennDOT ROW.

**Milestone B – Separate Phase Liquid Assessment.** Assess the presence and recoverability of SPL at MW-12 and OB-1. The assessment shall be initiated within one week following execution of the RA and performed weekly for six consecutive weeks (a total of six events). Each event shall be performed using the steps listed below for each well, performed in order.

1. Remove the petroleum absorbent sock from the well;

2. Allow water from the sock to completely drain into a container for proper treatment or disposal prior to proceeding to Step 3;
3. If the sock was installed as part of this SOW (weighed prior to installation), weigh the petroleum absorbent sock, and quantify the volume of SPL in gallons recovered via converting the weight to volume;
4. Using an electronic conductance-type interface probe with a 0.01-foot resolution, determine if measurable SPL is present in the well and record the measurement;
5. If measurable SPL is present at a thickness of 0.01 feet or greater, manually remove the SPL using a peristaltic pump. The removal of SPL should be performed in a manner that minimizes the removal of groundwater from the well. The volume of SPL recovered from each well shall be measured and reported; and
6. Install one new, pre-weighed petroleum absorbent sock in the well.

Documentation from the assessment shall include a summary of the field activities performed, photographs of recovered SPL, tabulated SPL thickness and recovery volume measurements, and graphical depictions of SPL thickness and recovery volumes over time. The graphical depictions shall include historical SPL measurements and groundwater elevations to assess potential correlations between fluctuating water levels and SPL thicknesses/recovery volume in the wells.

In the event SPL is encountered in additional wells, an SPL assessment will be performed for each additional well as described in Optional Milestone S.

Bidders shall assume that 0.5-gallons of SPL will be recovered and disposed of during each of the six monitoring/recovery events (total of three gallons). Bidders are also required to provide SPL/water removal, containerization, and disposal procedures in their bid response document.

**Milestone C – Private Utility Mark-out.** Conduct a private utility mark-out to confirm locations of underground utilities within five feet of the proposed soil borings and within ten feet of the proposed monitoring well and sub-slab soil gas points. The mark-out is to include notification to the Pennsylvania One Call System, discussions with the property owners regarding utilities, review of utility drawings, and a geophysical survey using ground-penetrating radar (GPR), metal detectors, and utility/line locators. The mark-out shall include determining the location, construction, use, and depth of underground utilities (e.g., storm sewers, sanitary sewers, water supply lines, drainage pipelines, and conduits) and UST system components (tanks, pipelines, conduits, containment sumps, and observation wells). Utilities shall be marked on the ground surface with paint and/or stakes during the mark out and photographed.

During the private utility mark-out, the condition of the existing monitoring/observation wells shall be evaluated by the selected consultant. The evaluation shall consist of inspecting the condition of each well for damage (e.g., surface completions and manhole covers), measuring diameter/depth, and photographing each well. Information on the apartment building sump (e.g.,

configuration, dimensions, method of operation, frequency of use, and discharge location) shall also be documented via inspection, photographs, and discussion with the property owner or owner representative.

A written report shall be submitted to the Solicitor and PAUSTIF within three weeks following initiation of the private utility mark-out. The report shall include the results of the private utility mark out, a scaled figure showing locations of underground utilities/UST system components, a summary of the well/sump evaluation results, and a copy of the geophysical survey report.

If during the private utility mark-out, it is determined that proposed borings or wells require re-location by more than five and ten feet, respectively, the selected consultant shall notify the Solicitor and PAUSTIF, identify alternative locations, and mark-out utilities within a five- or ten-foot radius of the alternative locations prior to mobilizing offsite. Damaged wells shall be repaired following Optional Milestone T.

**Milestone D – Soil Boring Installation and Sampling.** Five soil borings (SB-8 through SB-12) shall be installed and sampled to assess the magnitude and extent of soil impacts. The borings shall be installed at the locations shown in Figure 9 unless the presence of utilities, obstructions, or safety concerns necessitate a change in the location. If the location of a boring requires re-location by more than five feet, the selected consultant shall contact the Solicitor and PAUSTIF, document the rationale for re-location in writing (e.g., to avoid utility/obstruction or safety concern), and provide a figure showing the revised boring location for funding approval prior to initiation.

Each boring location shall be pre-cleared prior to drilling. Pre-clearing shall be completed to a diameter equal to or greater than the diameter of the down-hole drilling equipment to a minimum depth of five feet bgs.

Soil borings shall be advanced to a depth of 15 feet bgs using direct push technology and screened for total volatile organic compounds (VOCs) at two-foot intervals via headspace measurements. Headspace measurements shall be collected using a calibrated photoionization detector or flame ionization detector, and using a consistent head-space type analysis within 20 minutes of sample collection as follows:

- Transfer soil sample into a dedicated resealable polyethylene bag and seal the bag,
- Manually break up soil clumps and shake the bag,
- Allow headspace development for at least ten minutes at approximate room temperature,
- Introduce the instrument sampling probe through a small opening in the bag into the headspace, and
- Record the highest field screening response.

Two discrete soil samples shall be collected for laboratory analysis at each soil boring location. The samples shall be collected from the unsaturated and saturated (periodically saturated) zones (as those terms are defined by the PADEP) to the extent possible based on previous sampling conducted at the facility, the field observation/screening results, and in accordance with the regulations and the current PADEP technical guidance manual (TGM). Soil samples and a trip blank shall be collected in laboratory-provided containers and submitted for analysis at a PADEP-accredited laboratory using appropriate analytical methods and reporting limits for the substances listed in the COC section of this RFB.

In addition to the laboratory analytical samples, five discrete soil samples shall be collected for grain size analysis including quantification of silt and clay content. Samples shall be collected from depths that provide a representative sampling of the stratigraphic and lithologic characteristics of site soil. Samples shall be submitted to a laboratory for sieve and hydrometer analysis using American Society for Testing and Materials (ASTM) D422 or equivalent method. A particle-size distribution (gradation) curve shall be provided with the grain size analysis report prepared by the laboratory.

A log for each soil boring shall be prepared that includes classification of encountered soils/rock using a standard and consistent classification system procedure (e.g., Modified Burmister or Unified Soil Classification System [USCS]) and construction details. The headspace screening results must be recorded on the logs. The logs shall be prepared under the supervision of a Pennsylvania-licensed Professional Geologist and be provided to the Solicitor and PAUSTIF within two weeks following installation of the borings.

**Milestone E – Monitoring Well Installations.** Prepare and submit application to the Bucks County Health Department (BCHD) to install six monitoring wells (MW-16 through MW-21) to assess the magnitude and extent of groundwater impacts. Following receipt of authorization from BCHD, drill, sample, construct, and develop the wells.

The monitoring wells shall be installed at the locations shown in Figure 9 unless the presence of utilities, obstructions, or safety concerns necessitate a change in the location. If the location of a well requires re-location by more than ten feet, the selected consultant shall contact the Solicitor and PAUSTIF, document the rationale for re-location in writing (e.g., to avoid utility/obstruction or safety concern), and provide a figure showing the revised boring location for funding approval prior to initiation.

Each well location shall be pre-cleared prior to drilling. Pre-clearing shall be completed to a diameter equal to or greater than the diameter of the down-hole drilling equipment to a minimum depth of five feet bgs.

Prior to well construction activities, soil borings shall be completed with collection of soil samples for analysis of the substances listed in the COC section of this RFB at each corresponding monitoring well location using the methodology described in Milestone C.

The monitoring wells shall be drilled and constructed under the supervision of a Pennsylvania-licensed Professional Geologist. The wells shall be constructed and developed in accordance with generally accepted practices as outlined in the PADEP Groundwater Monitoring Guidance Manual, included as Appendix A to the current PADEP TGM as follows:

- Complete two-inch diameter monitoring wells to depths of 15 feet bgs. The wells shall be installed using hollow-stem auger drilling methods and constructed using schedule 40 polyvinyl chloride materials with screen installed from depths of 3 to 15 feet bgs.
- Each new monitoring well shall be developed no sooner than 24 hours following construction. Existing wells MW-8 through MW-15 shall also be developed unless a measurable thickness of SPL (greater than 0.01 feet) is present (e.g., MW-12). The objective of development is to remove fine-grained material from the well/filter pack and provide hydraulic communication between the well screen and surrounding formation. A surge block combined with a water removal mechanism (e.g., air lift or pump) shall be used for development. The surge block shall be raised and lowered over the entire length of the well screen several times concurrent with water removal. Development should be performed for a minimum of one-half hour or until turbidity is measured at less than ten Nephelometric Turbidity Units (NTUs) in three independent consecutive discharge water samples, whichever is sooner.
- Bidders shall include in their bid response procedures for well drilling, construction, development, and documentation.

The wells shall be completed at the surface in a monitoring well manhole with a water-tight lid, set in concrete flush with the ground surface. A locking, pressure-fit, watertight cap shall be placed on each well to prevent surface water infiltration and to restrict unauthorized access.

A log for each well shall be prepared that includes classification of encountered soils/rock using a standard and consistent classification system procedure (e.g., Modified Burmister or USCS) and construction details. The headspace screening results must be recorded on all logs. The logs shall be prepared under the supervision of a Pennsylvania-licensed Professional Geologist and be provided to the Solicitor and PAUSTIF within two weeks following development of the wells.

**Milestone F – Vapor/Soil Gas Sample Point Abandonments and Installations.** Abandon vapor points VP-1 through VP-4 and install two new sub-slab soil gas sampling points (SS-1R and SS-2R) in accordance with the current PADEP TGM. The new sampling points shall be installed and constructed inside the convenience store building storage area. The approximate locations of SS-1R and SS-2R are shown on Figure 9. Bidders shall include in their bid response

procedures for abandoning VP-1 through VP-4 (i.e., remove surface completions/points and restore surface conditions to match the surrounding area), drilling and constructing SS-1R and SS-2R, and documenting these activities.

**Milestone G – Professional Survey.** Secure a Pennsylvania-licensed Professional Land Surveyor to update the existing site survey. The updated survey shall include underground utilities identified during the private utility mark out, tank field observation well OB-1, and the new soil borings, monitoring wells, and soil gas sampling points. In addition, the survey shall include monitoring wells MW-2, MW-3, and MW-4 and injection wells IW-1, IW-4, and IW-5 at the former CITGO station property.

The survey shall be referenced to the Pennsylvania State Plane coordinate system with reference to the North American Datum of 1983 (NAD 83) and feature elevations shall be surveyed to a vertical accuracy of 0.01 feet using the North American Vertical Datum (NAVD 88).

The survey results shall be documented in a report that is signed and sealed by a Pennsylvania-licensed Land Surveyor. The report shall include references to datums used, a scaled map showing surveyed features and tabulated information for borings, observation/monitoring wells, and points (i.e., top of well casing/ground surface elevations and geographic coordinates [northings and eastings]).

**Milestone H – Groundwater Monitoring and Sampling.** Perform two rounds of groundwater monitoring and sampling (Milestones H1 and H2). The initial event shall be completed no sooner than two weeks following the development of the monitoring wells. The second event shall be completed no sooner than four weeks following the initial event and it should occur during the calendar quarter following the initial sampling event.

During each event, the depth to groundwater and SPL thickness (if present) in tank field observation well OB-1, monitoring wells MW-8 through MW-21, and the apartment building sump shall be gauged (measured) to an accuracy of 0.01 feet using an electronic conductance-type interface probe. Groundwater samples shall be collected from all monitoring wells, including wells with SPL. If a measurable thickness of SPL (greater than 0.01 feet) is present in a well, the SPL shall be removed, the volume removed measured and recorded, and a groundwater sample shall be collected. Absorbent socks previously installed in wells as part of Milestone B and Optional Milestone R activities shall be removed, weighed, and replaced in accordance with the procedure described in Milestone B. For the purposes of this RFB, bidders shall assume that:

- SPL will need to be removed from one monitoring well and OB-1 prior to purging and sampling during each event,
- One absorbent sock will be removed, weighed, and replaced in one well and OB-1 in accordance with the procedure described in Milestone B,
- 0.5-gallons of SPL will be recovered and containerized, and

- Recovered SPL shall be combined and disposed of with recovered liquids from Milestone B or Optional Milestone R.

Monitoring wells shall be purged and sampled in general accordance with the Groundwater Monitoring Guidance document in the current PADEP TGM. Groundwater and QA/QC samples shall be collected in laboratory-provided containers and analyzed by a PADEP-accredited laboratory using appropriate analytical methods and detection levels for the substances listed in the COC section of this RFB.

Bidders are required to provide in their bid response document the following:

- Purging and sampling methods,
- SPL removal, containerization, and disposal procedures,
- QA/QC sample collection protocols, and
- Laboratory analysis methods and reporting limits.

**Milestone I – Sub-Slab Soil Gas Sampling.** Perform two rounds of sub-slab soil gas sampling at SS-1R and SS-2R in accordance with Section IV of the current PADEP TGM (Milestones I1 and I2). Samples shall be analyzed using United States Environmental Protection Agency (USEPA) Method TO-15 for substances listed in the COC section of this RFB. The sampling events shall be separated by at least 45 days. Bidders are required to provide in their bid response document the following:

- Pre-sampling survey and chemical inventory procedures,
- Purging and sampling methods that include leak testing,
- QA/QC sample collection protocols that include one duplicate sample and an ambient outside air sample, and
- Verification from the laboratory that the reporting limits for all COCs meet the current PADEP sub-slab soil gas SSS vapor intrusion screening values.

**Milestone J – Preparation of Site Characterization Report.** Prepare an SCR in accordance with 25 Pa. Code § 245.310 that presents data and results generated during the completion of Milestones A through I. The SCR shall include, but not be limited, to the following:

- Comprehensive gauging data (water and SPL) in tabular form with calculated groundwater elevation values being adjusted for SPL if present,
- Graphs showing the comprehensive gauging data,
- Comprehensive soil, soil-gas, and groundwater quality analytical results in tabular form,
- One groundwater elevation contour map for each monitoring event with the inferred direction of groundwater flow illustrated using flow direction arrows,
- Time versus COC concentration graphs for the wells,

- Iso-concentration maps for every COC with the lowest contour value equal to the corresponding SHS MSC for the respective COC. Contour interval values will then increase on a base-10 logarithmic scale from the base contour interval (e.g., benzene contours would consist of 5, 50, 500 micrograms per liter [ $\mu\text{g/L}$ ] contours),
- Results of the SPL assessment, including measurements of SPL in wells and amounts recovered,
- Results of an ecological receptor evaluation,
- Summary of the remedial approach for attaining the SSS for soil and groundwater,
- Geologic logs for soil borings; geologic, construction, and development logs for monitoring wells; and geologic and construction logs for sub-slab soil gas sampling points,
- IDW disposal documentation, and
- Laboratory reports, chains of custody forms, and field sampling documentation.

A conceptual site model (CSM) shall be included in the SCR. The CSM shall be developed in accordance with 25 Pa. Code § 245.310 and consistent with guidance described in the current PADEP TGM and ASTM International E1689-20 *Standard Guide for Developing Conceptual Site Models for Contaminated Sites*. Information considered in developing the CSM shall consist of the following:

- Summary of stratigraphic and lithologic characteristics,
- Discussion of the type and characteristics of the released substance,
- Calculations of COC mass and distribution of the released substance in soil and groundwater,
- Discussion of groundwater elevations and flow direction,
- Summary of aquifer characteristics,
- Assessment of COC fate-and-transport,
- Evaluation of SPL distribution and recovery,
- Discussion of current and projected future land use and institutional controls,
- Identification of potential sensitive receptors,
- Evaluation of exposure pathways, and
- Identification of data gaps.

The exposure pathway evaluation shall be conducted in accordance with 25 Pa. Code § 250.404 and guidance described in the current PADEP TGM. The evaluation shall identify all potential current and future exposure pathways from contaminated soil, soil vapor, groundwater, and SPL.

The SCR shall be prepared in draft form for review and comment by the Solicitor and the PAUSTIF. The draft SCR shall be provided within 60 days following the completion of Milestones A through I. The timeframe for the completion of the SCR shall provide two weeks for the Solicitor's and PAUSTIF's review and the selected consultant shall address comments received



from the Solicitor and the PAUSTIF before submission of the SCR to PADEP. The SCR shall be signed and sealed by a Pennsylvania-licensed Professional Geologist.

The cost for Milestone J shall be reimbursed as follows:

- Milestone J1 – SCR submittal: 75% of proposed Milestone cost
- Milestone J2 – PADEP SCR approval: 25% of proposed Milestone cost

## Optional Milestones

All bidders shall provide the cost for each Optional Milestone included in this SOW in Attachment 4. The cost for each Optional Milestone shall include, but not be limited to, labor, equipment, expenses, subcontracts, and waste handling/disposal. Data evaluation and reporting of results in the SCR (Milestone J) shall also be included in the cost for each Optional Milestone. The activation of Optional Milestones requires approval from the Solicitor and PAUSTIF (for funding) prior to initiation.

**Optional Milestone K – Obtain PennDOT Access.** Obtain approval from PennDOT to install MW-16, MW-17, and MW-18 in the ROW if access is not approved by the owner of the Aldi Foods property in Milestone A (Bucks County Parcel ID 05-042-116-001). The cost for this Optional Milestone shall include the necessary effort to contact PennDOT representatives (verbally and/or in writing), answering questions from the representatives, and preparing, submitting, and executing access documentation (e.g., highway occupancy permit or right-of-entry agreement). Do not include the PennDOT security fee in this Optional Milestone's cost because a PennDOT security fee is typically waived on PAUSTIF claims. The selected consultant shall notify PAUSTIF, through their TPA, if a letter from PAUSTIF is required to waive the fees.

**Optional Milestone L – Install Additional Soil Boring.** Install an additional soil boring following the SOW in Milestone D (e.g., pre-clear, drill, and sample) as follows:

- Optional Milestone L1 – Install one additional soil boring as a stand-alone optional milestone, which will include mobilization costs.
- Optional Milestone L2 – Install one additional soil boring as an add-on to Milestone D or Optional Milestone L1 where the mobilization cost has already been included.
- Optional Milestone L3 – Provide a per-foot cost to modify the reimbursement for the installation of a soil boring accounted for by Milestone D or Optional Milestones L1 and L2 if a boring is advanced shallower or deeper than the prescribed depth of 15 feet bgs.

**Optional Milestone M – Collect Additional or Fewer Soil Sample(s).** Collect one soil sample during the installation of a soil boring or a monitoring well in laboratory-provided containers for analysis by a PADEP-accredited laboratory using appropriate analytical methods and detection levels for the substances listed in the COC section of this RFB. This cost will be used to modify the reimbursement for Milestones D and E, and Optional Milestones L, O, and P in the event more or less than the prescribed soil samples are collected during the soil boring and monitoring well installations.

**Optional Milestone N – Collect Additional or Fewer Geotechnical Sample(s).** Collect one geotechnical soil sample for analysis. This cost will be used to modify the reimbursement for Milestones D and E and Optional Milestones L, O, and P in the event more or less than five geotechnical samples are collected during the soil boring and monitoring well installations.

**Optional Milestone O – Install Monitoring Wells.** Install the monitoring wells included in Milestone E as two separate mobilizations following the SOW in Milestone E (e.g., pre-clear, drill, sample soil, construct, and develop) as follows:

- Optional Milestone O1 – Install off-property monitoring wells MW-16, MW-17, and MW-18.
- Optional Milestone O2 – Install on-property monitoring wells MW-19, MW-20, and MW-21.

**Optional Milestone P – Install Additional Monitoring Well.** Install an additional monitoring well following the SOW in Milestone E (e.g., pre-clear, drill, sample soil, construct, and develop) as follows:

- Optional Milestone P1 – Install one additional monitoring well as a stand-alone optional milestone that includes mobilization costs.
- Optional Milestone P2 – Install one additional monitoring well as an add-on to Milestone E or Optional Milestone P1 where the mobilization cost has already been included.
- Optional Milestone P3 – Provide a per-foot cost to modify the reimbursement for the installation of a monitoring well accounted for by Milestone E or Optional Milestones O1, O2, P1, and P2 if a well is advanced shallower or deeper than the prescribed depth of 15 feet bgs.

**Optional Milestone Q – Update Site Survey.** Update site survey following the SOW in Milestone G as follows:

- Optional Milestone Q1 – Update survey to include off-property monitoring wells MW-16, MW-17, and MW-18 installed as Optional Milestone O1 as a stand-alone optional milestone that includes mobilization costs.
- Optional Milestone Q2 – Update survey to include on-property monitoring wells MW-19, MW-20, and MW-21 installed as Optional Milestone O2 as a stand-alone optional milestone that includes mobilization costs.
- Optional Milestone Q3 – Update survey to include one additional soil boring accounted for during Optional Milestones L1 or L2 where the mobilization cost has already been included.
- Optional Milestone Q4 – Update survey to include one additional monitoring well accounted for during Optional Milestones P1 or P2 where the mobilization cost has already been included.
- Optional Milestone Q5 – Update survey to include monitoring wells MW-2, MW-3, and MW-4 and injection wells IW-1, IW-4, and IW-5 at the former CITGO station property as a stand-alone optional milestone that includes mobilization costs.

**Optional Milestone R – Conduct Additional Groundwater Monitoring and Sampling.** Perform additional groundwater monitoring and sampling in accordance with the SOW in Milestone H as follows:

- Optional Milestone R1 – Complete one round of water level measurements from monitoring locations MW-8 through MW-21, OB-1, and the sump as a stand-alone optional milestone that includes mobilization costs.
- Optional Milestone R2 – Complete one round of water level measurements from monitoring locations MW-8 through MW-21, OB-1, and the sump and one groundwater sampling event from monitoring wells MW-8 through MW-21 as a stand-alone optional milestone that includes mobilization costs.
- Optional Milestone R3 – Complete water level measurement and groundwater sampling of one monitoring well as an add-on to a Milestone or Optional Milestone where mobilization cost has already been included. This cost will be used to modify the reimbursement for a Milestone or Optional Milestone in the event more or less than the prescribed number of wells are sampled.
- Optional Milestone R4 – Complete SPL measurement, and removal, weighing, and replacement of one absorbent sock at one well in accordance with the SOW described in Milestone H. This cost will be used to modify the reimbursement for Milestone H and Optional Milestones R1 and R2 in the event more or less wells with SPL are present.
- Optional Milestone R5 – Collect an additional 0.5-gallons of SPL to be containerized and disposed. This cost will be used to modify the reimbursement for Milestone H, and Optional Milestones R1 and R2 in the event more or less SPL is collected.

**Optional Milestone S – Complete Additional Separate-Phase Liquid Recoverability Assessment.** Perform additional SPL monitoring and recovery in accordance with the SOW in Milestone B as follows:

- Optional Milestone S1 – Perform a SPL recoverability assessment at one additional well over the course of six events. This Optional Milestone assumes that mobilization costs have already been included in Milestone B.
- Optional Milestone S2 – Perform one SPL measurement and recovery event at one well. This stand-alone optional milestone shall be used to modify the reimbursement for Milestone B and Optional Milestone S1 if a reduction in the number of assessment events is appropriate (e.g., if SPL is no longer recovered prior to completing six events).

**Optional Milestone T – Perform Additional Vapor Intrusion (VI) Sampling.** Perform one additional sub-slab soil gas sampling event in accordance with the procedure described in Milestone I as follows:

- Optional Milestone T1 – Complete VI sampling event as an add-on to a milestone or optional milestone where mobilization cost has already been included.
- Optional Milestone T2 – Complete VI sampling event as a stand-alone optional milestone where mobilization cost is included.
- Optional Milestone T3 – Complete VI sampling at one sub-slab soil gas sampling point where mobilization cost has already been included. This cost will be used to modify the

reimbursement for a milestone or optional milestone in the event that less than the prescribed number of points are sampled.

**Optional Milestone U – Complete Monitoring Well Repairs.** Complete monitoring well surface completion repairs as indicated below. PAUSTIF reimbursement of well repair costs are considered on an individual basis. Prior approval (for reimbursement) shall be requested in writing and should include documentation of the necessity of well repair, how the well was damaged (if known), photographs of the damaged well, and how the well will be repaired. Documentation of well repairs shall be provided to the Solicitor and PAUSTIF within 10 days following completion. The Optional Milestones are as follows:

- Optional Milestone U1 – Minor repair of a well surface completion that includes the costs to replace manhole lid bolts, manhole lid O-ring, lockable monitoring well “J” plug, and lock. Assume the minor repair will be completed as an add-on to a milestone or optional milestone where mobilization cost has already been included.
- Optional Milestone U2 – Major repair of a well surface completion that includes the costs to remove, dispose of, and replace the concrete pad and manhole, and the replacement of the “J” plug and lock. Assume the major repair will be completed as an add-on to a milestone or optional milestone where mobilization cost has already been included.
- Optional Milestone U3 – Major repair of a well surface completion that includes the costs to remove, dispose of, and replace the concrete pad and manhole, and the replacement of the “J” plug and lock. Assume the major repair will be completed as a stand-alone optional milestone where mobilization cost is included.

**Optional Milestone V – Install and Sample additional Sub-Slab Vapor/Soil Gas Sampling Points.** Install and sample two sub-slab vapor/soil gas sampling points in accordance with the current PADEP TGM. For purposes of this RFB, all bidders shall assume the two optional sub-slab vapor/soil gas sampling points will be installed on the Facility property or an off-site property listed in Milestone A and be constructed to a total depth of six feet below grade, beneath an intact paved area large enough to be representative of future inhabited buildings, and within a securable manhole with a water-tight lid set in concrete flush with the ground surface. Following the installation of the optional sub-slab vapor/soil gas sampling points, the selected consultant shall perform two rounds of sub-slab soil gas sampling at the two optional sub-slab vapor/soil gas sampling points in accordance with Section IV of the current PADEP TGM. Samples shall be analyzed using USEPA Method TO-15 for substances listed in the COC section of this RFB. The sampling events shall be separated by at least 45 days. Purging and sampling methods, leak testing, QA/QC sample collection protocols, and laboratory reporting limits shall be consistent with those described in the bidder’s response for Milestone I.

**Additional Information**

To facilitate PAUSTIF's review and reimbursement of invoices submitted under this claim, the Solicitor requires that costs are 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.

## List of Attachments

1. Remediation Agreement
2. Bid Submission Coversheet
3. Required Responses Submission Form
4. Bid Cost Submission Form
5. Site Information/Historic Documents
  - a. RFB Figures
    - Figure 1 – Site Location Map
    - Figure 2 – Site Area Map
    - Figure 3 – Facility Features Map
    - Figure 4 – Sample Location Map
    - Figure 5 – Groundwater Elevation Contour Map April 2, 2024
    - Figure 6 – Soil Data
    - Figure 7 – Groundwater Data
    - Figure 8 – Soil Gas Data
    - Figure 9 – RFB Site Characterization Activities
  - b. 2002 Act 2 Closure Request and PADEP approval letter
  - c. CITGO Station Documentation
    - i. Remedial Action Progress Report 2Q24
    - ii. Remedial Investigation Report and Cleanup Plan May 2006
    - iii. Figures from DEP 2006
  - d. Background information, data, and results
  - e. Logs for soil borings, monitoring wells, and vapor points
  - f. Analytical reports for soil samples
  - g. Analytical reports for groundwater samples
  - h. Analytical reports for soil vapor samples