# COMPETITIVE FIXED-PRICE BID SOLICITATION

## REMEDIAL ACTION PLAN DEVELOPMENT AND IMPLEMENTATION FOR SITE CLOSURE BASED ON DEMONSTRATING ATTAINMENT OF THE STATEWIDE HEALTH STANDARD AND SITE SPECIFIC STANDARD VIA PATHWAY ELIMINATION INCLUSIVE OF SITE CLOSURE ACTIVITIES

### CARLISLE CAR & TRUCK SERVICE / HIGHLANDS' TIRE & SERVICE
### 1257 HOLLY PIKE (PA ROUTE 34),
### SOUTH MIDDLETON TOWNSHIP, CARLISLE, CUMBERLAND COUNTY, PA

**PADEP FACILITY ID #21-63686 PAUSTIF CLAIM #1999-0159(M)**

*February 4, 2011*

Thank you for your interest in this Request for Bid (RFB) opportunity. The Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF or "Fund") is issuing this RFB Solicitation on behalf of the Claimant, Mr. Zane Highlands of Carlisle Car & Truck Service (hereafter referred to as the Client or Solicitor). In general, this RFB references a scope of work (SOW) for preparing a revised Remedial Action Plan (RRAP) and implementing a site closure strategy based on demonstrating attainment with a combination of the Statewide Health Standards (SHS) for a used aquifer[1] in a non-residential setting and the Site Specific Standard (SSS) via pathway elimination (see below). The SOW includes tasks for developing and submitting a RRAP for Pennsylvania Department of Environmental Protection (PADEP) approval; quarterly groundwater sampling and reporting; evaluating trends in contaminant levels; numerical modeling; assessing potential contaminant migration / exposure pathways; assistance in developing an environmental covenant for the property; preparation and submittal of a Remedial Action Completion Report (RACR) inclusive of a Post-Remedial Care Monitoring Plan (PRCMP); and performing site closure activities at this facility. No installation and/or operation of a soil or groundwater remediation system is expected. Figure 1 depicts the site location on a 7.5-minute topographic map and Figure 2 is an aerial photograph of the facility.

At this time, the Solicitor wishes to pursue an Act 2 closure based on demonstrating attainment with the SSS via pathway elimination for site soil and with a combination of the SHS for a used aquifer in a non-residential setting and the SSS via pathway elimination for groundwater. The Solicitor is amenable to placing an environmental covenant on his property with respect to those constituents in soil or groundwater for which attainment of the non-residential SHS Medium Specific Concentrations (SHS-MSCs) cannot be demonstrated. In addition, the Solicitor seeks PADEP approval of a proposed period of appropriate post-remedial care monitoring in lieu of environmental covenants for any surrounding parcels that could be adversely impacted (as determined through numerical modeling). The PRCMP would propose periodically assessing groundwater use off the property should the numerical modeling indicate a possible future SHS exceedance. Therefore, the goals are to complete the remaining tasks necessary to affect this closure strategy as quickly as possible, achieve these closure goals, and obtain a release of liability pursuant to PADEP Act 2 regulations.

[1] For several reasons, possible application of the standards for a non-use aquifer to this site was determined not viable. First, although the site is located slightly more than a half mile from a Zone 2 wellhead protection area, the distance was deemed close enough to make PADEP approval of the non-use aquifer determination doubtful. More critically, given the proximity of this site to Letort Spring Run (approximately 1,000 feet downgradient), South Middleton Township representatives believe that local support for zoning ordinance changes necessary to prohibit groundwater use in the affected area is unlikely.

The Solicitor requests a written approach, schedule, and firm fixed-price bid to complete the tasks specified below, which are to be completed in accordance with all applicable PADEP rules, regulations, directives, and guidance. The SOW (Tasks 1 through 8) will be embodied in a Fixed-Price Agreement (see Attachment 2) executed by the Solicitor and the selected consultant. Although not a party to the Agreement, the Fund will reimburse 100 percent of the reasonable, necessary, and appropriate costs associated with the Milestone Payment Schedule specified in Section 4 below and as incorporated into the signed Agreement. The SOW tasks consist of the following:

Task 1. Prepare a Draft and Final RRAP
Task 2. Continued Quarterly Groundwater Monitoring, Sampling & Reporting
Task 3. Contaminant Levels Trend Evaluation
Task 4. Numerical Contaminant Fate-and-Transport Modeling
Task 5. Contaminant Migration / Exposure Pathway Evaluation
Task 6. Assist Solicitor with Finalizing an Environmental Covenant for the Property
Task 7. Prepare a Draft and Final RACR with PRCMP
Task 8. Site Closure / Restoration Activities

The SOW does ***not*** include additional site characterization activities. The Amended Site Characterization Report and Amended Remedial Action Plan (ASCR/ARAP) submitted by the current consultant of record on 12/16/08 was approved by the PADEP on 1/20/09. More recently, the current consultant of record conducted and reported the results of soil gas and sub-slab vapor sampling (see *Third Quarter 2010 Remedial Action Progress Report*). In addition, resumed operation and maintenance of the on-property remediation system will not be required (the system has been idle since February 2006 at the PADEP's direction). Consequently, permit compliance-related sampling and reporting are also not needed. Bidders should also note that the current consultant of record will remain responsible for ongoing quarterly groundwater monitoring, sampling & reporting until the Solicitor and the consultant selected pursuant to this solicitation have executed a Fixed-Price Agreement.

**Please note that a bidder's response to this RFB Solicitation Package means it has accepted all the contractual terms and SOW requirements (for example, but not limited to, any report submittal deadlines) unless explicitly stated to the contrary in the bid response.** However, bidders are still expected to describe their technical approach to completing the SOW in full and in detail. Simply referencing the RFB specifications/requirements or repeating the RFB text verbatim is not considered a sufficient description of the bidder's proposed SOW "in full and in detail."

**Should your company attend the mandatory pre-bid site meeting and respond to this RFB Solicitation, one copy of the signed bid package must be provided directly and only to the Funds' third-party administrator, ICF International (ICFI), at the address and to the attention of the ICFI person identified in Section 1 below.** In addition to this one hard copy submittal, the complete bid response must be submitted to ICFI electronically (Adobe PDF format) on a compact disk (CD) to be included with the hard copy bid response. ***The outside of the bid response package must be clearly marked and labeled with "Bid – Claim #1999-0159(M)***."

Please note that **the bid response (hard copy and digital version) is to be sent only to ICFI** who will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. No bid responses will be distributed for review until the due date and time elapses. Submitted bid responses are subject to Pennsylvania's Right-to-Know Law.

**The signed and labeled bid package (hard copy and electronic copy) sent to ICFI must arrive no later than 5:00 P.M. on March 4, 2011**. Please note that if your bid response is not received by ICFI by this due date and time, it will not be considered. Furthermore, only those bid responses received from the bidders who attended the mandatory pre-bid site visit (see Section 6) will be considered.

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 web site (see www.ins.state.pa.us). While the Technical Contact will assist ICFI, PAUSTIF, and the Solicitor in evaluating the bid responses, it is up to the Solicitor to select the bidder from those bid responses deemed acceptable to PAUSTIF as reasonable, necessary, and appropriate. The Technical Contact will assist the Solicitor in communicating its choice of the successful bidder, which is anticipated to occur within five (5) weeks after receiving the bid responses.

## 1. ICFI, SOLICITOR, AND TECHNICAL CONTACT INFORMATION

| **ICF International** | **Solicitor** | **Technical Contact** |
|---|---|---|
| Ms. Linda Crabb<br>ICF International<br>4000 Vine Street<br>Middletown, PA 17057 | Mr. Steven Fonner, General Mgr<br>(for Zane Highlands)<br>Carlisle Car & Truck Service, Inc.<br>1257 Holly Pike<br>Carlisle, PA 17013 | Mr. Robert Breakwell, P.G.<br>Excalibur Group, LLC<br>1193 State Road<br>Monessen, PA 15062<br>rbreakwell@excaliburgrpllc.com |

**Please note that there is a single point of contact regarding this RFB Solicitation**. All questions regarding this RFB Solicitation and the site conditions must be directed **in written form only** to the Technical Contact and must be received no later than five (5) calendar days prior to the due date for the bid response. Bidders must neither contact nor discuss this RFB Solicitation with the Solicitor, PADEP,[2] PAUSTIF, or ICFI unless approved by the Technical Contact. Questions received within five (5) calendar days of the bid response due date will not be considered. This RFB Solicitation may be discussed with subcontractors and vendors to the extent required for preparing the bid response.

Please note that unless a question can be successfully demonstrated to be proprietary in nature, all submitted questions and responses, both during and after the pre-bid site visit, will be shared with all bidders on a non-attributable basis. A bidder shall specify any questions it regards as proprietary upon submitting these questions to the Technical Contact. If said question(s) is (are) determined to be non-proprietary by the Solicitor and the Technical Contact, the bidder will be given the option of withdrawing its question(s) before it is answered and a response distributed.

## 2. GENERAL SITE BACKGROUND AND DESCRIPTION

The approximately 2½-acre site is currently an active automobile and truck service / repair facility (including tire sales and repair) that has not stored or sold motor fuels since January 1999. Ongoing site activities will need to remain cognizant of and adapt to these on-site operations. The address of this site is 1257 Holly Pike (PA State Route 34) in Carlisle, PA. Figure 3 is a site plan depicting both current and known historical site features. Attachment 1 provides several photographs of the site and its major features of interest.

Land uses in the surrounding area are a mix of commercial businesses and residences in the form of detached single-family houses and mobile trailer homes. The site is bounded by Holly Pike to the west with residential homes beyond; an automobile glass shop and propane gas storage and distribution

[2] If a bidder has specific questions it wishes to discuss with the PADEP, please provide these questions to the Technical Contact who will forward them to the PADEP. However, the PADEP may elect not to reply to any questions it receives.

facility to the north across a gully;[3] mobile home parks to the east and southeast; and Bonnybrook Road to the south with a small furniture store beyond. Less than one-half mile to the east of the site is a large stone quarry (United Quarries' Bonny Brook Quarry) that reportedly pumps up to 3 million gallons per day of groundwater in order to dewater the quarry. There are currently no other retail gasoline facilities located in the immediate vicinity of the site.

Additional information on the site and surrounding area is included in several of the documents listed in Attachment 1, which is posted with this solicitation on the PAUSTIF web site.[4] Tabular summaries of the available historical soil and groundwater analytical data and historical liquid-level monitoring data through the fourth quarter 2010 have also been posted in Attachment 1. The bidder should review this historical information carefully along with the additional information contained in this section. The Solicitor does not represent nor provide any warranty that the information provided with and in this RFB Solicitation is necessarily complete or sufficient for completing the identified scope of work. Therefore, ***each bidder should rely and base its bid upon its own evaluation of the information provided*.** Each bid must include and describe the bidder's conceptual site model as it pertains and applies to the proposed scope of work.

The following are selected site/background facts and observations extracted from the reports and other correspondence issued by the Solicitor's prior two consultants or based upon research conducted by the Technical Contact in preparing this Solicitation. Bidders should consult the accompanying electronic files for more background information on this site. If there is any conflict between the information provided in this RFB and the source documents, the bidder should defer to the source documents.

- Based upon available historical photographs, this site was developed as a retail gasoline and service center sometime between 1947 and 1955. The original one-story station building (see Figures 3 and 4) is believed to have been constructed in 1948. A second story was added to this building in 1997-1998. The "small warehouse" was added in 1982-1983, and the "back warehouse" was added around 1990.

- Based on a review of available historical photographs, it appears that this site was progressively leveled through the addition of some 15 feet of fill materials moving gradually across the site from the southwest to the northeast following what appears to be a northeast-trending drainage swale. The backfilled swale and heterogeneities associated with a significant thickness of fill may have an influence on the occurrence and movement of shallow perched groundwater at this site but would not be expected to influence the regional water table aquifer which generally is present below 40 ft-bg. The former northeast-trending drainage swale is seen in the historical aerial photographs (see Figure 5).

- According to the current site owner, Mr. Zane Highlands (1981 to present), and the prior site owner, Mr. J. Robert Lundy (1969-1981), the gasoline UST field and the gasoline dispenser island were located in the same area of the site (see Figure 3) since 1969. Whether any USTs were in service on this site prior to 1969 and, if so, where these USTs were located is not known. However, a 1955 aerial photograph (see Figure 4) appears to show a dispenser island in the same location as indicated in Figure 3, which suggests

[3] Although referenced as a "gully," this feature resulted from placing fill to form flat site pads on which the subject facility and adjoining facilities along the east side of Mount Holly Pike were developed. Historical topographic maps depicting the site area prior to its development show there is a natural drainage swale feature in this location, but its current appearance as a gully feature is not natural.
[4] The best scanned-in version of each document available has been provided.

that any pre-1969 tank field may have also been located off the southwest corner of the original station building.

- The prior site owner installed "several" motor fuel UST systems within a common tank pit in 1969. Reportedly, these USTs were removed from the property when the current owner purchased the site in 1980-1981. No documentation could be located regarding this 1980-1981 tank removal; however, the current owner has commented that he "knew the prior tanks had a problem" and that these USTs "were leaking." When interviewed in late 2005, the prior site owner could neither confirm nor deny the current owner's statements because he was not involved in the removal of the USTs in 1980-1981.

- The current site owner also inherited two heating oil USTs in the locations shown on Figure 3. These two heating oil USTs were emptied approximately 16 years ago and were removed in June 2006. [NOTE: Site documentation tends to refer to these tanks as the "alcove UST" and the "southern UST."]

- In June 1980, the current site owner installed three 4,000-gallon gasoline USTs in a common tank pit. In late 1981 or early 1982, an 8,000-gallon diesel fuel UST and an 8,000-gallon gasoline UST were added to this same tank pit. UST registration forms filed with the PADER in 1990 list Carlisle Car Truck & Service as the owner of the three 4,000-gallon USTs and Carlos R. Leffler, Inc. as the owner of the two 8,000-gallon USTs. In 1992, a change-in-ownership form was filed listing the current site owner as the "new owner" of the two 8,000-gallon USTs.

- Several in-ground hydraulic lifts and below-grade alignment pits were filled in with concrete in 2002-2003. However, in one of the existing service bays, there is still a 2 ft by 3 ft by 1 ft deep concrete pit of unknown prior use. A septic tank located off the southeast corner of the main building was used until October 2006 when the municipal sanitary sewer system was extended to this property and to properties in the surrounding area.

- There is a potable water supply well located within a rest room in the main building (see Figure 3). This supply well is believed to have been drilled in 1949 to a depth of 92 ft below ground surface (bgs). According to the current site owner, the water produced by this supply well exhibited a noticeable odor and an "oily feel" from 1981 until 2001 when a water softener was installed. According to the site owner, this well had not been used for drinking water since 1981, but was used to supply water to the rest room toilets and to indoor/outdoor hose spigots. In October 2006, this property and all the surrounding properties were connected to the municipal water supply system and all uses of the former supply well ended. The so-called "building well" remains in place as a monitoring point, but will eventually be abandoned in accordance with applicable requirements under Task 8.

- The site is underlain by the Zullinger and Shadygrove Formations consisting of interbedded limestone, dolomite, and chert. These formations are described in detail by Becher and Root (1981) as consisting of thick beds of blue-gray limestone locally interbedded with coarse quartz sandstone and finely laminated dolomite. As such, the bedrock underlying the site consists of moderately inclined interbedded carbonate and sandy rock types. Wells penetrating this bedrock encountered saturated zones comprised of weathered, broken, or otherwise partially decomposed rock types, which may represent fractured intervals, but which behave hydrologically as multiple inclined water-bearing zones.

- Measurements of the bedding orientation at the downgradient Bonny Brook Quarry suggest a strike of N52°E and an inclination of 49°SE. Measurements of the bedding orientation on the subject site suggest a strike of N49°E and an inclination of 51°SE. Furthermore, fractures developed along bedding plane parting surfaces appeared to be the predominant fracture pattern, suggesting structural control of groundwater flow parallel to bedding orientation. Vertical fracture sets were observed, but typically lacked the degree of continuity required to affect groundwater flow directions significantly. Finally, examined bedrock outcrops in the site vicinity suggest a pronounced anisotropy possibly affecting groundwater flow. The primary axis of anisotropy would be expected to be in the direction of bedrock strike parallel to the bedrock bedding planes, while the axis of minimum permeability is expected to be perpendicular to both bedding strike and dip.

- In October 1996, a PADEP representative inspected this site in response to an anonymous complaint alleging that an out-of-service UST at this site had been leaking into the groundwater for approximately one year. The PADEP representative reportedly collected a sample from the on-site water supply well and detected no odor or photoionization detector readings.

- On January 26, 1999, all three 4,000-gallon gasoline USTs (tanks #001-#003), one of the 8,000-gallon USTs (tank #004), the gasoline dispenser island, and the satellite diesel fuel dispenser were removed from the property. The fifth tank, the 8,000-gallon diesel fuel UST designated tank #005, was also emptied and taken out of service, but was not removed until April 2, 1999. Tanks #001, #002, and #003 were reported to exhibit several corrosion holes. Approximately 60 tons of impacted soil was removed. On January 27, 1999, a Notification of Reportable Release (NORR) was filed with the PADEP referencing a confirmed gasoline and diesel fuel release. The NORR also indicated that product-stained or product-saturated soil and free-phase product were observed in the excavation.

- On March 12, 1999, Claim #1999-0159(M) was filed with the PAUSTIF indicating that one or more of the gasoline USTs was believed to be the source of a confirmed reportable release.

- On April 19-20, 1999, three groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed on the property to depths of 100 ft, 140 ft, and 122 ft bgs, respectively. Competent bedrock was encountered in these three boreholes at 1 ft, 5 ft, and 4 ft bgs, respectively. These three initial wells were sampled for the first time in May 1999.

- On June 29-30, 1999, three additional groundwater monitoring wells (MW-4, MW-5, and MW-6) were installed on the property to depths of 80 ft, 80 ft, and 102 ft bgs, respectively. Competent bedrock was reportedly encountered in these boreholes at 7 ft, 5 ft, and 15 ft bgs, respectively.

- D & A Environmental (DAE) issued its *Initial Site Characterization Study* report in August 1999. This report describes the results of a fracture trace analysis that "will be used to determine the optimum location for intercepting fluids lost from the USTs." This report recommended further site characterization to delineate the downgradient extent of the separate-phase and dissolved-phase plumes through the installation of an off-site monitoring well. Difficulties securing access to the downgradient property delayed the installation of this off-property well (MW-7) until February 28, 2002. [NOTE: With the PADEP's and off-site property owner's approval, MW-7 was abandoned by the current consultant of record in June 2009 after nearly two years of sampling activity did not

detect any constituents of concern in this well at concentrations above the SHS for a used aquifer in a residential setting.]

- Based on its "fracture trace analysis", DAE concluded that two large fractures crossed the site with at least one fracture intersecting the UST area. However, subsequent analysis established that none of the numerous fracture traces mapped by the Pennsylvania Topographic and Geologic Survey actually intersected the site, i.e., all of the mapped fracture traces are oriented northwest to southeast and not northeast to southwest as depicted by DAE. The only structural orientation showing a similar northeast-to-southwest orientation near this site is bedrock bedding. Based on the available geologic maps, the bedding orientation at this site trends northeast to southwest and is inclined between 40 and 60 degrees to the southeast in the site vicinity. Therefore, the "fracture traces" mapped by DAE are most likely traces of the inclined bedding rather than discrete cross-cutting vertical fractures.

- On September 27, 1999, the PADEP concurred with DAE's recommendation for "further delineation of the contaminant plume and implementation of prompt remedial action to prevent further migration." The PADEP also noted that because monitoring wells MW-1, MW-2, and MW-3 were screened below the static water level, groundwater samples collected from these wells "may not be completely representative of site conditions."

- In October 1999, DAE issued its *On-Site Remedial Action Plan* to address on-site groundwater contamination only. DAE proposed installing two 6-inch diameter recovery wells to be located near monitoring wells MW-1 and MW-5, which DAE believed were located (along with well MW-4) "along a distinct fracture" that "constitutes the migration pathway for both dissolved-phase and free-phase gasoline contaminants." DAE proposed drilling these recovery wells (RW-1 and RW-2) to a depth of approximately 100 ft bgs "to intercept the target fracture zone." DAE also proposed conducting an 8-hour step drawdown test on each well to "establish the maximum sustainable yield and the radii of influence." A groundwater treatment system was proposed utilizing an air stripper and liquid-phase granular activated carbon. The use of passive skimmers was also proposed to recover free-phase product, which had been observed in wells MW-4 and MW-5 at a thickness of less than ¼ inch.

- On December 13, 1999, the PADEP indicated that it could not approve the *On-Site Remedial Action Plan* for three reasons. The cited reasons were: (1) the RAP provides no details of the pump-and-treat system pumping rate and area of influence; (2) there is insufficient detail provided regarding the possible use of oxygen releasing compound socks in some monitoring wells; and (3) the use of passive skimmers does not provide sufficient control of a potential separate-phase hydrocarbon plume that is present at the downgradient property boundary (i.e., well MW-5).

- On March 1, 2000, DAE sent the PADEP its *Revised Initial Site Characterization Study* report. This report summarized site activities undertaken to date, including a May 14, 1999 and a July 8, 1999 groundwater monitoring and sampling event. DAE also reiterated its conclusions and recommendations from the August 1999 *Initial Site Characterization Study* report.

- The initial monitoring well network appears to have been installed along strike, but at variable depths resulting in different wells intersecting differing hydrostratigraphic water-bearing units. In addition, the few wells that were installed perpendicular to strike were located to the east of the bedding orientation (i.e., roughly down-dip) and to a depth

above the interval shown to be impacted by contamination. The lack of up-dip monitoring points also proved problematic for proper analysis and application of the pumping test results. Bidders should note that all these concerns were addressed by the post-2006 site characterization activities described below.

- Recovery wells RW-1 and RW-2 were installed on March 16-17, 2000 to a depth of 100 ft bgs. On April 3, 2000, DAE conducted an 8-hour pumping test on recovery well RW-1 followed by an 8-hour pumping test on recovery well RW-2 on April 4, 2000, and a combined test of both RW-1 and RW-2 on April 5, 2000.

- In July 2000, DAE issued its *Revised On-Site Remedial Action Plan*. In this report, DAE identified the primary purpose of the RAP as to "propose alternative solutions that address three fundamental objectives: (1) reduce further off-site migration of groundwater contaminants, (2) possible enhancement of biodegradation / natural attenuation, and (3) active recovery and treatment of groundwater contaminants." This report also discussed the results of the April 2000 pumping tests, which led DAE to conclude there is "a variation in aquifer transmissivity between the upgradient portion of the site (near RW-1) and the downgradient portion (near RW-2)." "Near RW-1, the aquifer transmissivity is calculated to be 41 gallons per day per ft (gpd/ft) with a hydraulic conductivity of 1.4 gpd/ft$^2$, whereas near RW-2, the calculated aquifer transmissivity is much higher at 10,040 gpd/ft with a hydraulic conductivity of 335 gpd/ft$^2$." DAE concluded these variations "are expected in the fractured limestone [underlying] the site." At the same time, DAE also observed, "The on-site monitoring wells did not have a totally homogeneous response to the pumping rates indicative of fractures and solution cavities in the limestone providing pathways for groundwater flow."

- In the *Revised On-Site Remedial Action Plan*, DAE concluded that groundwater pump and treat "seems the most appropriate [remedial] option under the circumstances." DAE proposed using both recovery wells as part of the groundwater remediation system, with a sustained flow rate of 3.5 gallons per minute (gpm) at RW-1 and as much as 10-12 gpm at RW-2. DAE proposed treating the extracted groundwater with an air stripper with the effluent from the air stripper treated with liquid-phase GAC and then discharged to the ground surface or possibly re-injected to the subsurface via RW-1. DAE preferred the latter option as it "might help to flush high areas of contamination near the source area through the subsurface and toward RW-2," which DAE believed "is better positioned to recover contamination more efficiently." DAE also proposed using ORC socks in a parallel series of 4-inch diameter wells to be installed near well MW-4 if anaerobic conditions persist within the impacted areas of the aquifer. DAE estimated that active pump-and-treatment remediation would take three years.

- On August 7, 2000, the PADEP approved the *Revised On-Site Remedial Action Plan* subject to some comments, including requests for a diagram indicating the area of influence for the two recovery wells and a fate-and-transport analysis to evaluate the possible extent of contamination. DAE responded to these comments in a letter dated September 5, 2000, which prompted another round of comments from the PADEP in a letter dated October 16, 2000.

- In the third quarter of 2001, DAE installed the aboveground components of the groundwater treatment system and then activated the remediation system.

- In the fourth quarter of 2002, DAE planned to increase the pumping rate at RW-2 and to use RW-2 as the primary groundwater recovery well. However, in an August 18, 2005

letter, DAE indicated that the RW-2 pumping rate "could not be increased significantly due to friction and elevation losses encountered during pumping RW-2 and re-injecting into RW-1."

- In January 2003, DAE observed, "Remediation of the groundwater is proceeding, but volatile organic compound concentrations in groundwater have not decreased significantly during recent sampling events." DAE added, "This is most likely due to residual pockets of contamination being continually drawn into the remediation wells." DAE estimated that remediation would need to continue another 5 years followed by two years of post-remediation monitoring.

- The groundwater recovery and treatment system operated intermittently from the end of the 2nd quarter of 2003 through the end of the 3rd quarter of 2003 due to a malfunctioning discharge pump. Continuous operation of the system was not restored until October 14, 2003.

- In April 2003, DAE reportedly conducted additional aquifer pump tests, but the pump test results were not presented or discussed in any report subsequently issued by DAE. [NOTE: Pump tests were performed on the recovery wells in early April 2000, as described in the *Revised On-Site Remedial Action Plan*, and pulsed pump tests were performed by the current consultant of record in December 2006 and January 2007, as described in the December 2008 ASCR/ARAP.

- In its *Fourth Quarter 2003 Sampling Report*, DAE mentioned for the first time that the treated output of well RW-2 was being discharged into well RW-1. Later, in a July 1, 2005 letter, DAE indicated that the switch from pumping both RW-1 and RW-2 to just pumping RW-2 occurred on March 14, 2003. In its *First Quarter 2005 Sampling Report*, DAE indicated that it would switch back to pumping RW-1 given that the center of the dissolved-phase plume had shifted toward the upgradient portion of the site and RW-1. Overall, it appears the remediation system was, at times, operated to pump groundwater from both recovery wells simultaneously or recovered impacted groundwater from only one recovery well (principally RW-2) and then re-injected the treated groundwater into the other recovery well. Pumping recovery wells situated on opposite ends of an inclined water-bearing zone may have moved impacted groundwater back and forth along an inclined interval when the recovery wells were operated alternately, and/or possibly created a stagnation zone between the two pumping wells when the wells were operated simultaneously. Ongoing use of the on-site water supply well may have also influenced contaminant distribution.

- In April 2005, DAE indicated that "based on the assumption that remedial activities will continue with the current methods, we estimate that closure will occur in approximately seven years." DAE added, "Additional wells may be needed to delineate the extent of contamination."

- In August 2005, DAE stated, "An estimate of five more years of remediation system operation to complete the cleanup is probably optimistic." DAE added, "Modification of the pump-and-treat remedy will most likely be necessary in order to achieve this goal."

- In February 2006, the PADEP directed shutting down operation of the remediation system because it had not approved the re-injection scheme, including varying between RW-1 and RW-2 as injection wells.

- Beginning in May 2006, the current consultant of record conducted additional site characterization activities as documented in the December 2008 ASCR/ARAP. A total of seventeen (17) monitoring wells, two (2) inactive recovery wells and one (1) piezometer, including three (3) nested pairs of wells, are currently present on or immediately adjacent to this property. Most of these wells have been sampled on a quarterly basis up to the present. The first water-bearing zones on the western side of the property were encountered at depths ranging from 76 to 122 ft bgs, with static water levels generally in the range of 40 to 55 ft bgs. The elevation of Letort Spring Run, located approximately 1,000 ft east of the site, is approximately 50 ft below the site elevation and is believed to be the regional groundwater discharge body.

- Other potential contaminant source areas separate from the former regulated gasoline and diesel fuel USTs cavity have been addressed since 2006. The current consultant of record: (i) investigated soils and groundwater in the area of the former gasoline and diesel dispenser islands; (ii) relocated two aboveground waste oil storage tanks; and (iii) removed an abandoned fuel oil UST and impacted soils from the alcove area. In addition, the formerly closed-in-place heating oil UST located off the south wall of the station building was removed, and roof gutters were routed outside of the alcove area to minimize storm water infiltrating through remaining soils in the alcove area.

- Analytical results for the biased soil samples collected from the former regulated and unregulated UST cavities and the area of impacted soil excavated from the alcove area exhibited constituent concentrations below applicable SHS-MSCs. Bidders should also note that PADEP's 1/20/09 letter approving the December 2008 ASCR/ARAP concurred that "soil is not a media of concern in the area of the former regulated gasoline / diesel fuel UST systems." The PADEP letter also states that soil in the area of the two former unregulated heating oil USTs could be addressed following the Act 2 administrative procedures. However, as previously mentioned, the Solicitor has elected to pursue a relief of liability for site soils under the SSS via pathway elimination.

- Results from the pulsed pumping tests conducted in December 2006 and January 2007 suggest a strong along-strike structural influence indicative of an anisotropic aquifer. Consequently, the distance drawdown relationships are expected to be dependent on direction. The contaminant distribution also strongly suggests a structural control. The pulsed pumping test results are described in the December 2008 ASCR / ARAP.

- In addition to the comments on soil quality and Act 2 administrative procedures mentioned above, the 1/20/09 PADEP letter approving the December 2008 ASCR/ARAP also listed these modifications: (1) if concentrations above the SHS continue to be present in POC well MW-13, the selected SHS cleanup standard should be re-evaluated or remediation initiated (to be addressed by this RFB solicitation); (2) because MW-13 does not appear to be along the center line of the plume, a monitoring well should be installed along the center line of the plume in the area of the gulley (this issue was resolved through subsequent discussions with the PADEP and an additional well is not necessary); (3) no fate-and-transport model was provided and the full extent of the contaminant plume has not been projected (to be addressed by this RFB solicitation); (4) the vapor intrusion screening values are not appropriate for use at the site due to the shallow bedrock and the [presence of] fill material not meeting the definition of soil-like material (an acceptable soil vapor study has been completed; see below); and (5) well MW-3 should continue to be sampled since it is a POC monitoring well and has had historic exceedances of the SHS (MW-3 was not deleted from the quarterly sampling program). A copy of the PADEP letter is provided in Attachment 1.

- A contaminant fate-and-transport model was developed in response to the 1/20/09 letter from PADEP, However, several perceived shortcomings and concerns were identified in reviews of this model prompting including a modeling task in this RFB (Task 4). The perceived shortcomings included:

    - Identifying two separate contaminant plumes but offering no explanation as to how the two separate plumes developed or discussing the nature and location of the source areas of the two separate plumes.
    - No model calibration plots, contoured plume, groundwater elevation maps, or any other information that would allow comparing the modeled output and measured plume/groundwater configuration were provided.
    - Recharge and hydraulic conductivity arrays were discussed, but no supporting graphic or tabular summary of the input data was provided.
    - Figures provided with the model lacked features by which the spatial orientation of the plume could be discerned.
    - Figures provided with the model used color blocks to represent contaminant concentrations, which obscured the underlying data.
    - Simulated source areas, concentrations, and source mechanisms were not shown or described.
    - Figures depicted a small plume in March 2009, a greatly expanded plume in March 2010, and an even greater plume 4.4 years later in mid-2013. However, at the same time, by approximately 2016, the plume was depicted as disappearing altogether. Consequently, the figures provided did not appear to fit observed plume behavior and did not correspond to the stable or decreasing plumes currently observed.

- Two indoor sub-slab vapor sampling points and two exterior soil vapor sampling points were installed by the current consultant of record and sampled in September and October 2010. None of the interior sub-slab or exterior soil vapor samples exhibited constituent concentrations exceeding the criteria for comparison to indoor air quality at residential sites. Therefore, the *Third Quarter 2010 RAPR* in which these results are presented and discussed (see Attachment 1) maintains that further assessment or remediation related to vapor intrusion is not necessary.

- Based on discussions with South Middleton Township representatives, an in-place zoning ordinance requires mandatory connections to the public water supply and it is believed that all properties in the immediate area, including the subject property, connected to the public water supply in 2006-2007. However, whether all the former water supply wells are no longer used for any purpose and have been properly abandoned is not known and is to be addressed as part of this RFB.

Bidders are directed to the documents in Attachment 1 for additional site data and activities since 2006 to the present, including the approved December 2008 ASCR/ARAP and recent RAPRs.

## 3. SCOPE OF WORK

The Solicitor seeks competitive, fixed-price bids to complete the eight tasks outlined below. <u>To be deemed responsive, each bid must respond in detail to each of the SOW tasks</u> as well as describe and apply the bidder's conceptual site model interpretation as it pertains to conduct of the proposed SOW. In other words, bidders shall respond to the SOW as stated herein to enable as much of an *"apples-to-apples"* comparison of the bids as possible. Recommendations for changes to the SOW should be

discussed and quantified separately. **Failure to bid the SOW "*as is*" may result in a bid not being considered**.

Any modification to the selected consultant's SOW for Tasks 1 through 8 will require prior written approval by the Solicitor **and PAUSTIF** through its third-party administrator, and may require PADEP pre-approval. Bidders should also note that this SOW was provided to the PADEP-SCRO case manager for review and comment.

It is expected that the selected consultant's approach to completing the SOW will be in accordance with generally accepted industry standards / practices and all applicable federal, state, and local rules, guidance, directives, and regulations. This would include, but is not necessarily limited to, satisfying the requirements of the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended), Pa. Code, Title 25, Chapter 245, and meeting and demonstrating attainment of the standards established under the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) and Pa. Code, Chapter 250 (Administration of Land Recycling Program).

Per the Solicitor's request, the SOW covered by Tasks 1 through 7, including submittal of the RACR, must be completed within **nine (9) months** following contract award. **Each bidder's proposed project schedule for Tasks 1 through 7 must meet this requirement clearly and unambiguously.** The project schedule must also specify no less than two (2) weeks for the Solicitor and PAUSTIF to review and comment on the RRAP and on the RACR before each of these documents is submitted for PADEP review and comment. Task 8 must be completed within 90 days following PADEP review of and approval of the RACR (Task 7). The bid schedule shall also include time to address any PADEP comments received on the RRAP and the RACR.

In addition to the SOW tasks specified below, the selected consultant shall also:

- Complete necessary, reasonable, and appropriate project planning and management activities until the SOW specified in the executed contract has been completed. Such activities would be expected to include client communications/updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities (e.g., utility location, etc.). Project planning and management activities will also include preparing and implementing plans for Health and Safety, Waste Management, Field Sampling/Analysis, and/or other plans that may be required by regulations or that may be necessary and appropriate to complete the SOW, and shall also include activities related to establishing any necessary access agreements. Project management costs shall be included in the fixed-price quoted for Tasks 1 through 8, as appropriate.

- 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 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 upon request. Waste disposal costs shall be included in the fixed-price quoted for Tasks 1 through 8, as appropriate.

- Be responsible for providing the Solicitor with adequate advance notice prior to each visit to the property. The purpose of this notification is to coordinate with the Solicitor to ensure that appropriate areas of the property are accessible. Return visits to the site prompted by a failure to make the necessary logistical arrangements in advance will **not**

constitute a change in the selected consultant's SOW or total project cost for Tasks 1 through 8.

- Be responsible for keeping all wells in good condition, with each well properly sealed and locked in-between each monitoring/sampling event. The selected consultant is responsible for repairing any seals or locks that become defective during the period of this contract at its expense; however, should a well become damaged or destroyed through no fault of the contractor, the Solicitor may request that the selected consultant repair or replace the well as an amendment to this SOW subject to the rate schedule provided in the selected consultant's bid response. Any request for Fund reimbursement of the reasonable costs to repair or replace a well will be considered on a case-by-case basis.

**Task 1 – Prepare a Draft and Final RRAP.** The December 2008 ASCR/ARAP, as approved with modifications by the PADEP in January 2009, proposed site closure under the SHS for soil and groundwater. However, the Solicitor now wishes to close this site and obtain a PADEP Release of Liability under the SSS via pathway elimination for site soil and under a combination of the SHS for a used aquifer in a non-residential setting and the SSS via pathway elimination for groundwater.[5] Therefore, the bidder shall provide a firm fixed-price for developing a RRAP which presents and describes this alternative site closure strategy. The RRAP shall contain all applicable information required under 25 PA Code §245.311 and be of sufficient quality and content to reasonably expect PADEP approval. Each bidder's project schedule shall provide two (2) weeks for Solicitor and PAUSTIF review of the draft document. The final RRAP shall address any comments received from the Solicitor and PAUSTIF on the draft report before it is submitted to the PADEP for its review.

The RRAP shall describe the conduct of Tasks 2 through 6 below, which will be performed to gather data in support of the alternative combined SHS / SSS site closure strategy, and shall discuss preparation of a RACR (Task 7) and site restoration (Task 8). The RRAP shall also: (a) incorporate any historical information that the selected consultant deems appropriate; (b) include all necessary figures, tabulated data and appendices; (c) identify the point-of-compliance (POC) monitoring wells;[6] (d) specify the compounds in groundwater that will be addressed under the SHS or the SSS; and (e) provide a detailed schedule for implementing this alternative remedial approach.

Additionally, the RRAP shall contain a draft environmental covenant for the Carlisle Car & Truck Service property that will address and effectively eliminate exposure to any compounds in soil and/or groundwater exceeding the SHS. The draft covenant shall also address decommissioning the property water supply well BW-1 to eliminate this potential exposure pathway. Assisting the Solicitor with finalizing the environmental covenant will subsequently be conducted under Task 6.

Note that the schedule and cost for Task 1 shall anticipate addressing any PADEP comments on the RRAP. The RRAP shall be signed and sealed by a Professional Geologist **and** a Professional Engineer registered in the Commonwealth of Pennsylvania.

**Task 2 – Continued Quarterly Groundwater Monitoring, Sampling & Reporting.** Under this task, the ongoing program of quarterly groundwater monitoring, sampling and reporting shall be continued until the RACR (Task 7) has been approved by the PADEP. Considering the scope of work described in this RFB,

[5] The combined SHS/SSS site closure strategy shall involve closure for site soil under the SSS via pathway elimination, and demonstrating attainment for all constituents with concentrations historically below the SHS MSCs in groundwater and applying the SSS via pathway elimination for all other constituents in groundwater that currently exceed the SHS MSCs.

[6] POC monitoring wells are presumed to be MW-2, MW-3, MW-10, MW11 and MW-13. However, the selected consultant may wish to modify this list based on its interpretation of site conditions.

PADEP approval of the RACR would be expected to occur within one-year of contract execution with the selected consultant. Therefore, bidders shall provide a firm fixed-price to complete four quarters of groundwater monitoring, sampling and reporting. Each quarterly event shall include the 14 wells currently monitored (MW-1, MW-1D, MW-2, MW-2S, MW-2P, MW-3, MW-4, MW-5, MW-8S, MW-10, MW-11, MW-12, MW-13 and BW-1). The conduct and results of each event shall be documented in quarterly Groundwater Monitoring Reports (GMRs)

During each quarterly groundwater monitoring and sampling event, the depth to groundwater and any potential separate-phase hydrocarbons (SPH) shall be gauged in all existing available monitoring wells and prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient.

Each of the monitoring wells designated for sample collection shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Any well exhibiting a measurable thickness of SPH shall not be purged and sampled. Bidders shall manage equipment decontamination fluids and groundwater generated by the well purging and sampling activities in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives.

Groundwater samples collected during the sampling events shall be analyzed for the **pre**-March 2008 PADEP short-list of unleaded gasoline parameters by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Appropriate QA/QC samples shall also be collected during each event and analyzed for the same parameters.[7]

To support the combined SHS/SSS closure, each event shall also include field measurements for these natural attenuation parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential. Additionally, laboratory analysis of the following suggested natural attenuation parameters shall be conducted on three well samples during the first and second sampling events only: dissolved manganese, ferrous iron, methane, nitrate nitrogen, sulfate, alkalinity, and microbial plate counts (heterotrophic and gasoline degraders). Bidders shall assume analyzing samples for these parameters from one well located upgradient, within, and downgradient of the contaminant plume to be determined by the selected bidder (six samples total).

The GMRs describing the sampling methods and results will be provided to the PADEP on a quarterly basis and within 30 days of the receipt of analytical results for each quarter. At a minimum, each GMR shall contain the following: a) a narrative description of the sampling procedures and results; b) tabulated data from current quarterly and all historical data; c) maps depicting groundwater flow directions and groundwater analytical data; and d) discussion of the data to offer an updated assessment as to whether these data are consistent with a stable, shrinking, or expanding plume. Each GMR shall be sealed by a Professional Geologist or Professional Engineer registered in the Commonwealth of Pennsylvania.

**Task 3 – Contaminant Levels Trend Evaluation.** Under this task, bidders shall provide a fixed-price for completing a statistical analysis of contaminant level trends at all site wells having measurable contaminant levels during the site period of record. Groundwater analytical data produced under Task 2 that is available during preparation of the RACR shall also be considered in this evaluation. Statistical

[7] Each bidder's approach to implementing Task 2 shall clearly identify the number of sampling events, number of wells / samples per event, well purging and sampling method(s), QA/QC measures, analytes, and other key assumptions affecting the bid price.

analyses shall include performing regression analyses on data sets from site wells, fitting either multiplicative or exponential equations consistent with known contaminant decay/mass reduction reactions governing contaminant behavior in site media. The analyses must include determination of fitted curve mean and prediction limits at the 95% statistical confidence level. Analyses are to be consistent at all site wells, and must provide a conclusive determination of the degree to which site-wide contaminant levels have reached equilibrium conditions. Additional analyses may be applied as required at wells showing anomalous behavior compared to conditions determined on a site-wide basis. Such additional analyses may include, but are not necessarily limited to, evaluation of the effects of rainfall/recharge cyclicity, groundwater level fluctuations, impacts of previous remedial system operation and post-remedial system rebound effects, contaminant source area removal, etc. The fixed-price cost shall include documenting the statistical evaluation in the RACR (Task 7), which shall include a discussion of any analytical assumptions applied, factors influencing data base variability, identification of statistical outliers, and other factors at a level of detail appropriate to demonstrate the reliability and veracity of the analyses.

**Task 4 – Numerical Contaminant Fate-and-Transport Modeling.** Under this task, bidders shall provide a fixed-price cost for constructing a quantitative contaminant fate-and-transport model to address all dissolved-phase constituents whose concentrations exceed the relevant PADEP SHS-MSCs for groundwater. Specifically, the selected consultant shall complete a fate-and-transport analysis using a calibrated contaminant fate-and-transport model suitable for the site conditions, and that utilizes data generated from the site characterization activities. The fixed-price cost shall include documenting the modeling effort in the RACR (Task 7), which shall include describing all model input/output; providing an explanation of model construction, identification and justification of all input parameter values and sources, and a discussion of modeling results and conclusions at a level of detail appropriate to demonstrate model reliability and veracity.

In order to address the heterogeneous conditions associated with site hydrogeology, including the existing set of associated hydrologic boundary conditions, groundwater flow modeling shall be completed using the USGS MODFLOW computer code. The groundwater flow model shall be calibrated to site conditions observed at site groundwater monitoring wells under the maximum observed extent of site contamination during the previous eight quarters of groundwater sampling. Following construction, calibration and verification of the groundwater flow model, a contaminant fate-and-transport model shall be constructed using MT3D. The contaminant fate-and-transport model shall be calibrated to the same synoptic sampling event as the groundwater flow model, also constructed at the time of maximum contaminant areal extent. Once calibrated and verified using data collected from on-site groundwater monitoring wells, the consultant shall complete a 30-year simulation to predict the maximum likely areal extent of the dissolved-phase plumes over that period. Plume maps shall be reproduced on South Middleton Township zoning, USGS topographic, and reasonably up-to-date satellite and/or aerial photograph map bases.

Given the location of the nearest surface water body (Letort Spring Run), currently available data suggest that surface water modeling applications such as SWLOAD5B and PENTOXSD will not be necessary. In particular, prior application of SWLOAD5B and the concentrations predicted for the constituents of concern (COC) in groundwater discharging into Letort Spring Run suggest that these COC concentrations would *not* exceed surface water criteria. However, should additional site data indicate that contaminant loading to surface water should be re-evaluated; the need for such modeling will be subject to the "New Conditions" provision of the Fixed-Price Agreement.

**Task 5 – Contaminant Migration / Exposure Pathway Evaluation.** Under this task, bidders shall provide a firm fixed-price for completing a contaminant migration / exposure pathway evaluation to support the combination SHS/SSS pathway elimination site closure. The successful consultant will identify potential contaminant migration pathways and sensitive receptors, and assess the possibility for

current or future exposure risk. Bidders should note that site soil no longer appears to be a media of concern as previously discussed. Also, results from the soil gas and sub-slab vapor sampling program recently completed by the current consultant of record indicate that concentrations of vapor-phase gasoline constituents were significantly below the PADEP Indoor Air Criteria for both residential and non-residential buildings (see Third Quarter 2010 Remedial Action Progress Report).[8] Nevertheless, the successful consultant will evaluate the existing soil and soil vapor data and consider these pathways in the evaluation, along with the groundwater pathway, given the historical soil impacts associated with the regulated and unregulated UST systems.

In addition to the above, bidders shall conduct a door-to-door survey to identify and determine the nature of any private water supplies and to collect groundwater samples from any supplies that could potentially be diminished due to historical releases at the Carlisle Car & Truck Service property. Prior to completing the survey, the PAGWIS database search for private and public water supplies and public water supply network map acquisitions completed by the current consultant of record (see Attachment 1) shall be verified in the event of recent updates. Searches of any other available public and private water supply databases shall also be conducted.[9] The door-to-door survey will require: (i) canvassing all parcels within a ¼-mile radius hydraulically downgradient and sidegradient of the property; (ii) obtaining property owner consent to sample any potentially affected supply; and (iii) reporting of the analytical results to the well owner, the PADEP, and other potential parties. Sample results must be provided to the PADEP and the well owner within 5 days of receiving laboratory analytical results in accordance with 25 PA Code §245.306(4). Private water wells shall be purged and sampled from the closest practical outlet to the well and before any treatment system components. Under no circumstances should a potable private supply well be accessed directly. The collected groundwater samples shall be analyzed for the **pre**-March 2008 PADEP short-list of unleaded gasoline parameters by a PADEP-accredited laboratory using appropriate analytical methods and detection levels. Since the number of private water supplies that may need to be sampled (if any) cannot currently be predicted, bidders shall provide a unit cost per private supply for sampling, analysis, and reporting. Additionally, should analytical results reveal impact to a private water supply related to the releases at the subject property, additional work per 25 PA Code 245.307 pertaining to affected or diminished water supplies will need to be conducted as an out-of-scope amendment subject to the new / changed conditions provision of the executed agreement.

The methods and results provided from the contaminant migration / exposure pathway evaluation and the door-to-door water use survey shall be documented in the RACR (Task 7).

**Task 6 – Assist Solicitor with Finalizing an Environmental Covenant for the Property.** Under this task, the bidder shall provide a firm fixed-price for providing assistance to the Solicitor with finalizing the draft environmental covenant for the property and filing it with the PADEP in accordance with the Uniform Environmental Covenants Act effective 11/20/10. As previously indicated under Task 1, the environmental covenant shall effectively eliminate exposure to any compounds in soil and/or groundwater exceeding the SHS. The environmental covenant will also address decommissioning of the former (i.e., unused) site water supply well (BW-1) to eliminate this potential exposure pathway. The final environmental covenant shall be included in the RACR for PADEP review. Note that the fixed-price for this task will need to include a $500 PADEP fee for filing the final covenant. Note also that the Solicitor will retain counsel to address legal aspects of preparing the environmental covenant outside of the contract that will be executed for this RFB solicitation (i.e., the successful bidder will not be expected to subcontract legal services).

[8] The PADEP has not yet commented on the soil gas and sub-slab vapor sampling program or the results.
[9] As previously mentioned, South Middleton Township maintains an ordinance requiring mandatory connection to the public water supply.

**Task 7 – Prepare a Draft and Final RACR with PRCMP.** Under this task, the bidder shall provide a fixed-price cost to prepare a draft and final RACR following the completion of Tasks 1 through 6 above. At a minimum, the RACR shall: (a) detail the methods and results of RRAP implementation (Tasks 2 through 6); (b) discuss the selected closure criteria for the site with conclusions of how the data support the combination SHS/SSS site closure; (c) provide a demonstration of attainment for those compounds selected to be addressed under the SHS in groundwater; and (d) request permanent closure for the site for the current release under an Act 2 Relief of Liability. The RACR shall incorporate any historical information that the selected consultant deems appropriate for supporting the SHS/SSS site closure along with all necessary figures, tabulated data and appendices. Additionally, the RACR shall include a PRCMP that will be implemented in lieu of covenants for surrounding parcels. The PRCMP shall propose periodically assessing groundwater use off the property should the numerical modeling indicate a possible future SHS exceedance.[10] The RACR shall also include the final copy of the signed and notarized environmental covenant.

The project schedule should allow two (2) weeks for Solicitor and PAUSTIF review of the draft RACR/PRCMP before a final version is submitted to the PADEP. Following Solicitor / PAUSTIF review of the draft document, the selected consultant shall address any comments and submit the final RACR/PRCMP to the PADEP in accordance with Section 245.313. The RACR/PRCMP shall be signed and sealed by a Professional Geologist **and** a Professional Engineer registered in the Commonwealth of Pennsylvania.

**Task 8 – Site Closure / Restoration Activities.** Under this task, the bidder shall describe and provide a fixed-price cost for properly closing the site, including: removal of the above-grade elements of the idled remediation system; in-place abandonment of monitoring/recovery wells, the property water supply well (BW-1) and below-grade remediation system elements consistent with PADEP guidelines; well head removals; any site re-grading that may be needed due to conduct of past corrective action activities; and re-vegetation / asphalt repairs, as necessary. The selected consultant shall determine whether the Solicitor wishes to maintain any components of the remedial system (e.g., the equipment shed) before removing it from the property. This task shall also include photo documenting the site restoration work and completion of the well abandonment forms. Well abandonment forms shall be forwarded to the Pennsylvania Bureau of Topographic and Geologic Survey. Note that the well abandonment form for the property water supply well must also be forwarded to the PADEP to document that the well has been properly sealed as required by the environmental covenant. Additionally, copies of these photographs and forms shall be provided for the Solicitor's files.

## 4. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable, firm, fixed-price, not-to-exceed contract for the SOW addressed by Tasks 1 through 8. A sample Fixed-Price Agreement is included as Attachment 2,[11] and, although the Fund will not be a party to this Agreement, the Fund will facilitate the process of getting the Fixed-Price Agreement in place.

As noted earlier, **a bidder's response to this RFB Solicitation Package means it has accepted all of the contractual terms unless explicitly stated to the contrary in its bid response.** Therefore, any requested changes to the Fixed-Price Agreement must be specified in the bid response. Please note that these changes will need to be reviewed and agreed upon by both the Solicitor and the PAUSTIF.

[10] Because it is not possible to anticipate possible PADEP-requested modifications to the PRCMP (e.g., post-remedial groundwater sampling and analysis), costs for implementation of the PRCP will be subsequently addressed outside of this RFB.

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

Each bid is to identify unit cost rates for labor, other direct costs, and equipment, as well as proposed mark-ups on other direct costs and subcontracted services for all SOW Tasks 1 through 8. The by-task and by-subtask quotes are to be entered into the Cost Tabulation Spreadsheet / Standardized Bid Format included as Table 1 in Attachment 3 to this RFB (Attachment 3 is included among the files posted on the PAUSTIF web site). Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable,." i.e., these variable cost items will not be handled outside of the Total Fixed Price quoted for the SOW. Finally, please also note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

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

- Milestone A – Prepare a Draft and Final RRAP (Task 1).
- Milestone B – Continued Quarterly Groundwater Monitoring, Sampling & Reporting (Task 2). Note that the schedule assumes four (4) Milestone B payments.
- Milestone C – Contaminant Levels Trend Evaluation (Task 3).
- Milestone D – Numerical Contaminant Fate-and-Transport Modeling (Task 4).
- Milestone E – Contaminant Migration / Exposure Pathway Evaluation (Task 5).
- Milestone F – Assist Solicitor with Finalizing an Environmental Covenant for the Property (Task 6).
- Milestone G – Prepare a Draft and Final RACR with PRCMP (Task 7).
- Milestone H – Site Closure / Restoration Activities (Task 8).

**TABLE 2 – SAMPLE MILESTONE COMPLETION / PAYMENT SCHEDULE**

| **Estimated Milestone Timing (Month After Contract Award)** | **SOW Activities Anticipated / Completed for that Month** | **Milestone(s)[1]** |
|---|---|---|
| 1 | Initial Quarterly Groundwater Monitoring, Sampling & Reporting Event (B1) | B1 |
| 2 | Prepare a Draft and Final RRAP (A) | A |
| 4 | Second Quarterly Groundwater Monitoring, Sampling & Reporting Event (B2) | B2 |
| 6 | Contaminant Levels Trend Evaluation (C), Numerical Contaminant Fate-and-Transport Modeling (D) | C, D |
| 7 | Third Quarterly Groundwater Monitoring, Sampling & Reporting Event (B3) | B3 |
| 8 | Contaminant Migration / Exposure Pathway Evaluation (E), Assist Solicitor with Finalizing an Environmental Covenant (F) | E, F |
| 9 | Prepare a Draft and Final RACR with PRCMP (G) [2] | G |
| 10 | Fourth Quarterly Groundwater Monitoring, Sampling & Reporting Event (B4) | B4 |

| **Estimated Milestone Timing (Month After Contract Award)** | **SOW Activities Anticipated / Completed for that Month** | **Milestone(s)[1]** |
|---|---|---|
| 13 | Site Closure / Restoration Activities (H) [3] | H |

**1.** Each bidder should modify this sample Milestone Completion / Payment Schedule for Tasks 1 through 8 to reflect its proposed task schedule, as long as the proposed schedule meets the deliverable deadlines specified in Section 3 of this RFB.
**2.** The RACR/PRCMP must be submitted in final form to the PADEP within 9 months of contract award.
**3.** Site Closure / Restoration must be completed within 90 days following PADEP review of and approval of the RACR

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

Unless otherwise noted by the bidder, each bid response received is required to be good for a period of up to 120 days after its receipt. The unit costs quoted in the bid will be good for the duration of the period of performance cited in the Fixed-Price Agreement.

## 5. ADDITIONAL BID PACKAGE REQUIREMENTS

Each submitted bid response must include the following:

- A reasonable demonstration that the bidder: (i) understands the objectives of the project, (ii) offers a reasonable approach for achieving those objectives efficiently, and (iii) has reviewed the existing site information provided in or attached to this RFB Solicitation Package.
- A reasonable demonstration that the bidder is capable of producing a representative, calibrated numerical contaminant fate and transport model using MODFLOW and MT3D applied to the complex site conditions.
- Provide an answer to the following questions regarding the bidder's qualifications and experience:
  - How many Chapter 245/250 sites has your company closed (i.e., obtained a Release of Liability under Act 2) in Pennsylvania?
  - How many Chapter 245/250 sites has your company or the proposed PA-licensed Professional Geologist (P.G.) and Professional Engineer (P.E.) closed (i.e., obtained a Release of Liability from the PADEP) under either the SHS and/or the Site Specific Standard? [*NOTE: The Solicitor requires the work described herein to be completed under the responsible care and directly supervised by a P.G. and P.E. consistent with applicable regulations and licensing standards.*]
  - Whether the numerical contaminant fate and transport modeling will be conducted in-house or out-sourced?

- Whether a registered P.G. or P.E. sufficiently experienced with the MODLOW and MT3D modeling applications will be directly completing the numerical modeling work? If not, will the work be overseen and reviewed by a P.G. or P.E. sufficiently experienced with these modeling applications?
- How many years of experience does the person designated to complete or review the contaminant fate and transport model have with the MODFLOW and MT3D modeling applications and how many successful applications has he/she completed?
- Whether there were or were not circumstances consistent with the cancellation provision of a signed contractual agreement, and has your firm ever terminated work under a fixed-price or pay-for-performance contract before attaining all of the project objectives and milestones? If yes, please list and explain the circumstances of each such occurrence.

- A complete firm fixed-price cost bid for Tasks 1 through 8 by completing the bid cost tabulation spreadsheet provided in Attachment 3 (included among the accompanying electronic files) following the SOW task structure specified herein.
- A description and discussion of all level-of-effort and costing assumptions.
- Indicate whether the bidder accepts the proposed contract / terms and conditions (see Attachment 2) or has provided a list of requested changes to the Fixed-Price Agreement.
- Provide a statement of applicable / pertinent qualifications, including the qualifications of any proposed subcontractors (relevant project descriptions are encouraged).
- Identify the proposed project team and provide resumes for the key project staff, including the proposed Professional Geologist and Professional Engineer of Record who will be responsible for endorsing work products prepared for PADEP review and approval.
- Provide a task-by-task description of the proposed technical approach. **If this task-by-task description fails to address a specific requirement of this RFB, it will be assumed that the bidder has accepted all the requirements specified herein by task.**
- Identify and sufficiently describe subcontractor involvement by task (if any).
- Provide a detailed schedule complete with specific by-month dates for completing the proposed SOW, inclusive of reasonable assumptions regarding the timing and duration of client, PAUSTIF, and PADEP reviews needed to complete the SOW. Details on such items as proposed meetings and work product submittals shall also be reflected in the schedule of activities.
- Describe your approach to working with the PADEP from project inception to site closure. Describe how the PADEP would be involved proactively in the resolution of technical issues and how the PADEP case team will be kept informed as to project status.
- Describe how the Solicitor and ICFI / PAUSTIF will be kept informed as to project progress and developments and how the Solicitor will be informed of, and participate in, evaluating potential alternatives / tradeoffs with regard to the SOW addressed by Tasks 1 through 8.

## 6. MANDATORY PRE-BID SITE VISIT

On ***February 18, 2011***, the Technical Contact will conduct a ***mandatory pre-bid site tour*** for a limited number of participants per firm at this property starting at ***11AM***. Please inform the Technical Contact at least three (3) business days in advance of this date as to whether your firm will participate. The number of participants per firm is limited to no more than two individuals. Again, **any firm that does not attend this mandatory pre-bid site tour will not be eligible to submit a bid response.**

Questions will be entertained as part of the pre-bid site tour and every attempt will be made to answer questions at that time. However, all questions and the responses provided during the site visit will also be distributed in writing to the attendees after the tour, as will the answers to any non-proprietary questions submitted in writing after the pre-bid site tour has been concluded. Consequently, bidders are strongly encouraged to ask clarifying questions sufficient to minimize the number of assumptions, special conditions, and exemptions referenced in the submitted bid response.[12] Questions will be accepted up to 5 calendar days before the bid response due date. Again, please note that referencing extremely narrow or unreasonable assumptions, special conditions, and exemptions in a bid response may make the bid response too difficult to evaluate and may result in the bid response being deemed "unresponsive."

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

# FIGURES

**Figure 1. Site Location Map.**

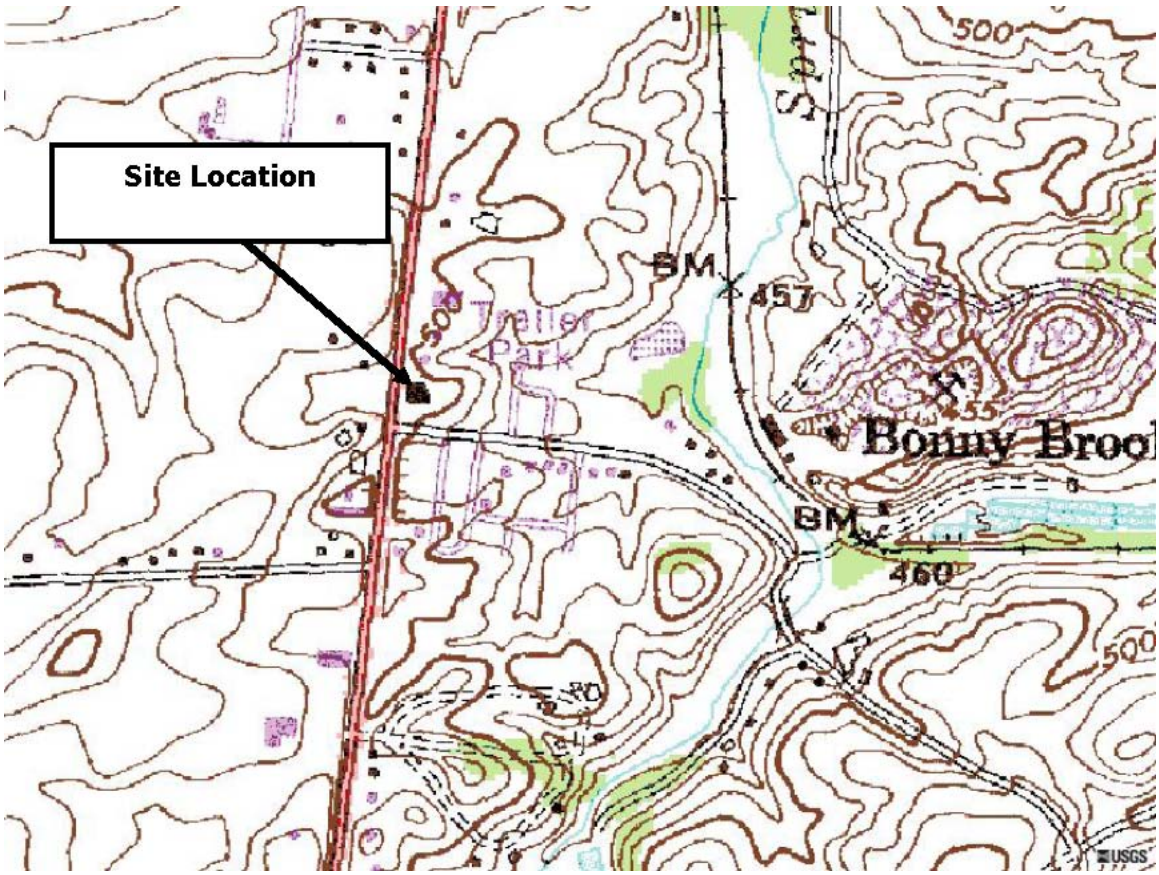
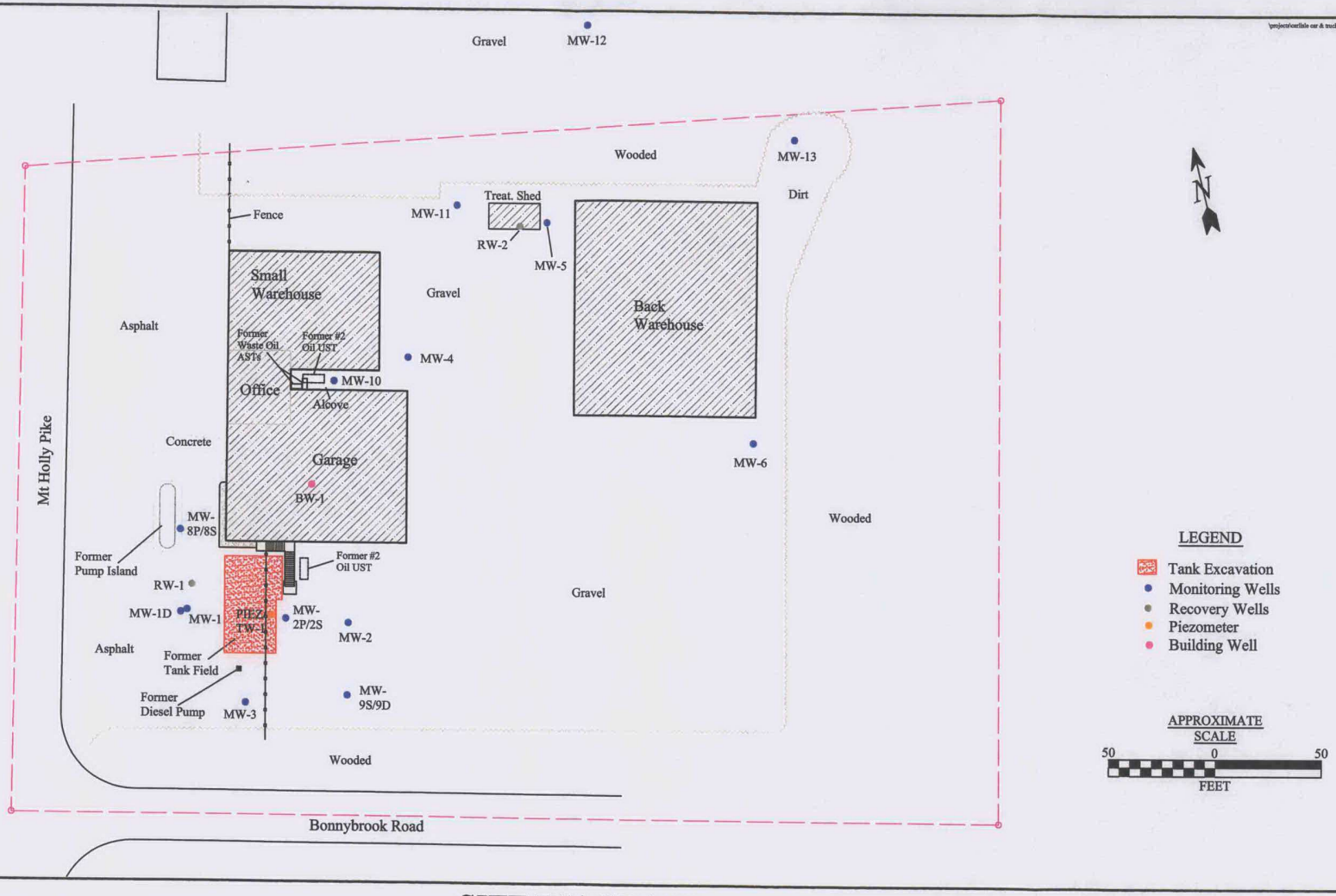


**Figure 2. 2003 Aerial Photograph**

# FIGURE 3

# SITE PLAN DEPICTING
# CURRENT AND HISTORICAL FEATURES




# SITE DIAGRAM


Hydrogeological/Environmental Services
1414 N. Cameron Street
Harrisburg, Pa. 17103
Ph: 717-260-0102
Fax: 717-260-0112


EPSYS

CARLISLE CAR & TRUCK SERVICE
SOUTH MIDDLETON TWP.
CUMBERLAND CO., PA

PROJECT: 20053822

FIGURE: 2

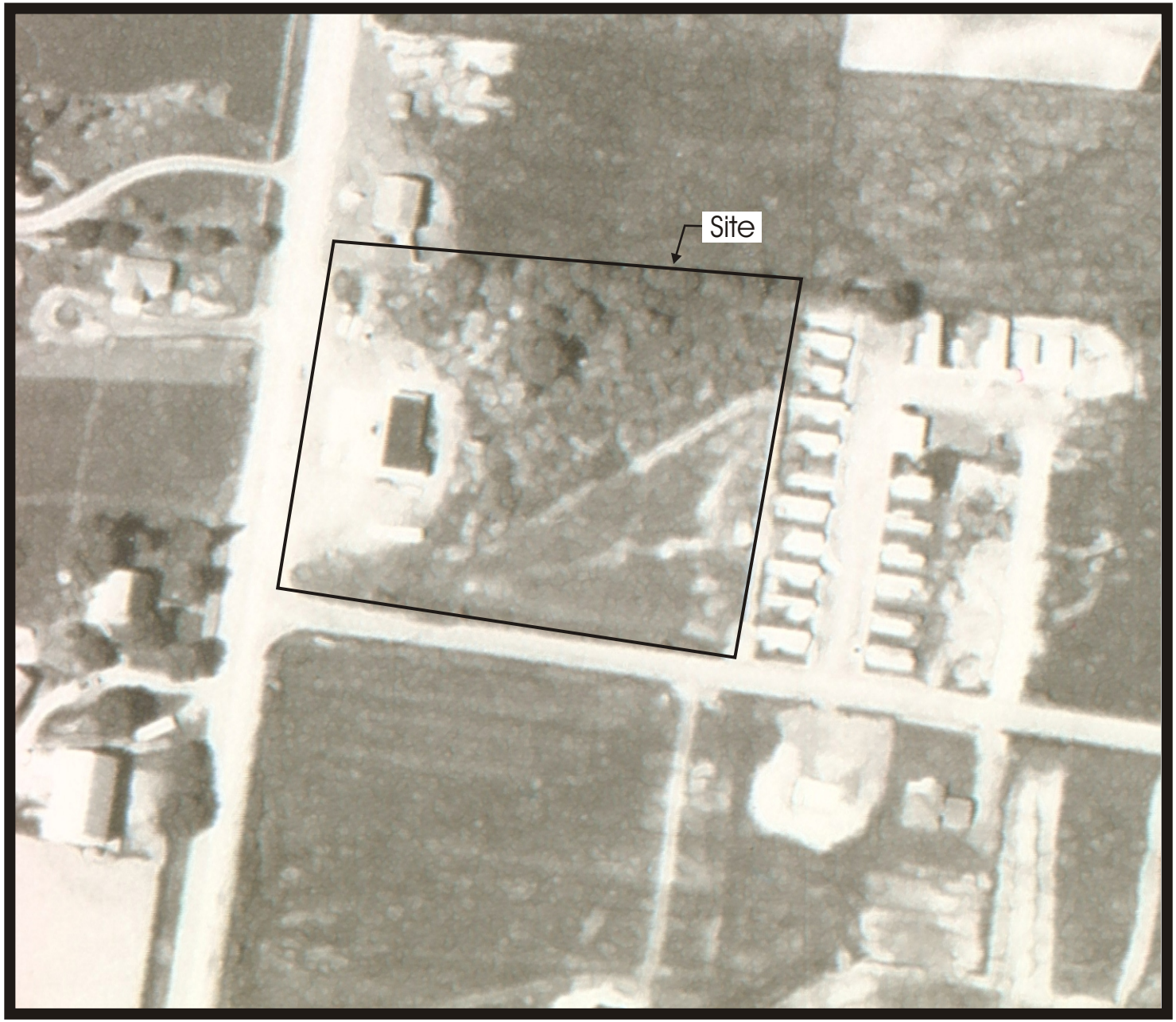
# FIGURE 4

# 1955 AERIAL PHOTOGRAPH

Site Aerial Photography - May 4, 1955
Carlisle Car & Truck Service - Carlisle, Pennsylvania

# FIGURE 5

# 1958 AERIAL PHOTOGRAPH




Site Aerial Photography - May 12, 1958
Carlisle Car & Truck Service - Carlisle, Pennsylvania

# ATTACHMENT 1

## Relevant Project Documents

| **Filename:** | **Document:** |
|---|---|
| NORR_Jan1999 | January 1999 Notification of Reportable Release |
| UST Closure Report Forms (1) | 2/27/99 PADEP forms documenting the removal of unleaded gasoline USTs #001, #002, #003, and #004 on 1/27/99 |
| UST Closure Report Forms (2) | 5/12/99 PADEP forms documenting the removal of diesel fuel UST #005 on 4/2/99 |
| Aug1999_ISCS | August 1999 Initial Site Characterization Study |
| Oct1999_RAP | October 1999 Onsite Remedial Action Plan |
| Mar2000_RISCS | 3/1/00 Revised Initial Site Characterization Study |
| Jul2000_RRAP | July 2000 Revised Onsite Remedial Action Plan |
| PADEPlet_090500 | 9/5/00 letter to PADEP providing additional requested information |
| Dec2008_ASCR-ARAP | December 2008 Updated Site Characterization Report & Amended Remedial Action Plan |
| PADEPlet_012009 | 1/20/09 PADEP letter approving the December 2008 ASCR/ARAP with modifications |
| RAPR3Q10 | Third Quarter 2010 Remedial Action Progress Report & Vapor Intrusion Assessment |
| RAPR4Q10 | Fourth Quarter 2010 Remedial Action Progress Report |
| PAGmaps | PAGWIS private water well maps |
| HistSoil | Historical soil quality analytical data |
| HistGWData | Historical groundwater quality analytical data |
| Site Photos | Photographs of site and surroundings |

# ATTACHMENT 2

# Fixed-Price Agreement

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

**DRAFT**

# REMEDIATION AGREEMENT

PADEP Facility ID #:**[##-#####]** USTIF Claim #:**[####-####(x)]**

This agreement ("Agreement") is entered into as of the _____day of _____**[Insert Year],** by and between **[Insert Owner's Name]** and **[Insert Facility Name]** (Client"), with a principal place of business at **[Insert Address]** and **[Insert Environmental Consulting Firm Name and (Appropriate Acronym)]**, ("Consultant") a **[Insert State Name]** Corporation with its principal place of business at **[Insert Environmental Consultant's Address]** (collectively, the "Parties").

## RECITALS

WHEREAS, the Pennsylvania Department of Environmental Protection ("DEP") has determined that corrective action of a petroleum release at a regulated underground storage tank ("UST") site is required ("Remediation").

WHEREAS, the Pennsylvania Underground Storage Tank Indemnification Fund ("Fund") has also determined the Remediation is eligible for reimbursement.

WHEREAS, the Client desires that Consultant perform the scope of work described in Exhibit A to this Agreement (the "Scope of Work") for a total fixed cost (see Exhibit B).

WHEREAS, the Fund is not a party to this Agreement, but agrees to dedicate funds for the payment of reasonable corrective action costs in connection with the Remediation so long as the Fund is provided with reporting and monitoring data in accordance with this Agreement to assure that payment is warranted based upon the conditions of this Agreement.

NOW THEREFORE, in consideration of the obligations, covenants and conditions set forth in this Agreement, the Parties, intending to be legally bound, agree as follows:

## 1. Recitals Incorporated

The above recitals are hereby incorporated as if fully set forth herein.

## 2. Responsibilities of Consultant

a) Consultant shall, as an independent contractor to Client, perform the Scope of Work.

b) The Scope of Work shall be performed in accordance with all applicable federal, state, and local rules and regulations, including the requirements of the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended) and Pa. Code, Title 25, Chapter 245, meeting and demonstrating attainment of the Standard (as defined in Exhibit A) established under the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) and Pa. Code, Chapter 250 (Administration of Land Recycling Program). The Scope of Work will be completed consistent with Remedial System Design **[or Insert name of Appropriate Document]**, dated **[Insert Date]** and Response to Telephone Conversation **[or Insert name of Appropriate Document]** of **[Insert Date]** that contained clarifications on the Remedial System Design **[or Insert name of Appropriate Document]** dated **[Insert Date]**. Both documents are included for reference as Exhibit D of this Agreement. Any significant modification to the Scope of

Work will require approval of the Client, Pennsylvania Department of Environmental Protection (PADEP), and the Fund.

c) Consultant shall perform the Scope of Work for a total fixed price ("TFP") of **[Insert Dollar Value]**, subject to all other provisions of this Agreement.

d) Consultant shall attend periodic site meetings with the Fund and Client for site status updates. The Fund will provide Consultant ten (10) days written notice of the meeting.

**3. Responsibilities of Client**

a. Client shall exclusively retain the services of Consultant to perform the Scope of Work, in accordance with, and subject to, the other provisions of this Agreement.

b. Client shall provide access for Consultant and its subcontractors, to the Site, and shall enter into any other access agreements with other third party property owners, as necessary to complete the performance of the Scope of Work.

c. Client shall, as necessary to complete the Scope of Work: (i) cooperate and assist Consultant with the preparation and submittal of all information and documents including, without limitation, correspondence, notices, reports, data submittals, restrictive covenants, engineering and institutional controls, and the like, and (ii) implement and maintain any engineering or institutional controls.

d. Client shall transmit to Consultant copies of all documentation, correspondence, reports, and the like, sent or received by Client, regarding the environmental conditions at the Site.

**4. Period of Performance**

This Agreement shall be effective from the date first above written until the Scope of Work is completed by Consultant, subject to the other provisions of this Agreement.

**5. Standard of Care**

Consultant will perform the Scope of Work and other services with the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services under similar conditions in the same or similar locality. The foregoing is in lieu of all other warranties, express or implied, including warranties of marketability or fitness for a particular purpose.

**6. Fees and Payment**

a. Consultant shall submit a payment request ("Payment Request") to the Client for approval using the form in Exhibit C, upon the completion of milestones as described in Exhibit B and Exhibit C. The Client approved payment request will then be submitted to the Fund for payment.

**b. [Paragraph 6b applies only to performance-based contracts. Delete paragraph 6b if the contract is NOT performance-based.]**

If Consultant is able to obtain the final milestone prior to completing the other milestones, all milestones payments are due and payable to Consultant.

c. Client shall use the Fund to satisfy the Payment Request in connection with the performance of the Scopes of Work under the following conditions:

   i. Client shall submit all necessary documentation to effectuate Consultant direct payment from the Fund;

   ii. Should the Fund be temporarily suspended or permanently terminated, Client shall reimburse Consultant for any unpaid Payment Requests and interest, within 30 days of notification by Consultant of such suspension or termination. Interest is calculated as 0.75% per month on outstanding amounts;

   iii. In all cases where Consultant is ultimately paid by the Fund for eligible amounts paid by Client, Consultant will refund to Client such amounts; and

   iv. Should Fund guidelines be substantially changed, either party may terminate this Agreement with or without cause upon a 30 day written notice. Consultant shall be paid any outstanding unclaimed amounts due from Client at the time of such termination within thirty (30) days of notice of termination.

   v. To ensure payment, Consultant will perform the Scope of Work and remedial actions for the TFP and in accordance with PADEP approved RAP and, if necessary, PADEP approved RAP addendum.

**7. Insurance**

During the performance of this Agreement, Consultant will carry and maintain the following insurance coverage:

a. Workers Compensation Insurance -- at the statutory limits, and Employer's liability with a limit of not less than $1,000,000 each occurrence.

b. Automobile Liability and coverage on all vehicles owned, hired, or used in performance of this Agreement with limits not less than $1,000,000 – Bodily Injury and Property Damage combined single limit and aggregate.

c. Comprehensive General Liability Insurance – as well as coverage on all equipment (other than motor vehicles licensed for highway use) owned, hired, or used in the performance of this Agreement with limits not less than $1,000,000 each occurrence and $2,000,000 in the aggregate.

d. Pollution Liability/Professional Liability at $1,000,000 per occurrence and $2,000,000 in the aggregate.

**8. Performance Product and Warranty**

**[Delete the paragraph below and replace with "Not Applicable." if the contract scope of work cannot reasonably be expected to remediate the site to the selected cleanup standards and the contract scope of work does not include a demonstration of attainment]**

Consultant estimates that the demonstration of attainment with the approved PADEP standard for all compounds listed in the Scope of Work will commence following **[Insert number of quarters]** (**Insert number of months**) of operation after the start-up of the Remedial System. If such demonstration of attainment can not be initiated within this defined schedule, Consultant shall conduct the pre-defined Additional Measures (as defined in Exhibit A). If demonstration of attainment cannot be initiated at the end of the Additional Measures, Consultant may, at its option, forgo the remaining milestone payments, terminate this Agreement, and be released from any further obligation.

**9. Equipment Loss or Damage**

Consultant owned items used for the Agreement that are damaged or destroyed by acts of nature, improper design, installation, maintenance or handling, theft, or vandalism are at the sole expense of the Consultant. All other items shall be replaced at the expense of Client.

**10. Non-performance by Remediation Contractor**

Except as provided in Section 8, if Consultant fails to meet any specification of the Scope of Work as outlined in this document, the Client or the Fund shall notify Consultant by certified letter of the deficiency(ies). If Consultant does not correct the deficiency(ies) within thirty (30) days, Consultant shall be in breach of contract and the Client may void the contract or the Fund may withhold any further payment. Consultant shall be notified by certified letter that the contract is void and if any invoices are payable upon review and approval by the Fund. If Consultant corrects the deficiency(ies) within 30 days, the contract will continue.

**11. Cancellation**

a. The TFP shall not be increased except upon the occurrence of a "New Condition" as defined in this section.

b. A "New Condition" exists when one or more the following events occur and, as the result of such event, Consultant has demonstrated that the cost and/or period of time necessary to accomplish the Scope of Work is increased:

   i. The discovery of New Contamination (defined as any presence or release, or any portion of a presence or release, of any regulated substance including, without limitation, petroleum that impacts soil, sediments, surface water and/or groundwater and did not exist or was not identified in the Baseline Conditions). Without limiting the definition of New Contamination, New Contamination includes:
      - a documented tank, line and/or dispenser failure, or surface spill, that impacts soil, sediments, surface water and/or groundwater;
      - the discovery of unknown or abandoned underground storage tanks and/or lines and associated equipment that demonstrate that they have caused a release of oil or hazardous material to the environment and this release causes a substantial increase in the scope of work and costs;
      - the detection of any dissolved regulated substances not previously detected at the site; and
      - increases in dissolved regulated substance(s) greater than 100 times the maximum concentration of such regulated substance(s) measured during the two years prior to the execution of this agreement for more than two consecutive quarters, provided

that this increase is not attributed directly to the remedial actions being conducted or the deactivation of the remedial actions;

ii. Construction or reconfiguration of the Site, to the extent that it interferes with the Scope of Work;

iii. Promulgation of new, or change in interpretation of existing, federal, state, or local law, regulation, ordinance or written policy;

iv. Limitation of access to the Site or adjacent properties, changes in access, significant changes in access agreements, access that requires the institution of administrative or legal action, or access that requires unreasonable or uncustomary monetary expenditures;

v. Demands, claims or lawsuits, and the like, that impact the progress of the remediation or requires additional effort not accounted for in the Scope of Work; or

vi. Non-payment or continuous late payment of Consultant invoices. Continuous late payment is defined as at least two payments not received for more than 60 days after submittal of associated Payment Requests within a calendar year.

vii. One or more of site specific assumptions provided in Exhibit A no longer remain true and accurate.

c. Upon the discovery or occurrence of any New Condition,

i. Consultant shall notify Client in writing, describing the details of such New Condition; and

ii. Consultant shall provide an additional scope of work and associated cost estimate to account for such New Condition ("Out of Scope Work") for Client's approval and authorization. Upon Client approval, Consultant shall continue with the original Scope of Work and perform the Out of Scope Work, with the Out of Scope Work performed on a time and materials, unit cost or lump sum basis as Consultant and Client shall agree; or

iii. If Consultant and Client are unable to agree as provided above as to the value of the Out of Scope Work, Consultant, in it sole discretion, may terminate this Agreement. Upon such termination, Consultant shall be paid for all incurred and outstanding costs, fees and expenses as of the date of termination and all reasonable demobilization costs and Consultant shall have no further obligations under this Agreement. If Consultant is released from this Agreement, all environmental remediation and monitoring equipment and material purchased solely for the execution of this Scope of Work shall remain onsite and in usable state/condition.

## 12. Indemnity

Consultant shall indemnify and hold Client harmless from and against any liabilities, losses, claims, orders, damages, fines and penalties (collectively, "Claims") arising out of or related to negligent acts or omissions of Consultant in the performance of the Scopes of Work. Client shall indemnify and hold Consultant harmless from and against any Claims arising out of or related to

(i) the negligent acts or omissions, or violations of Law, of Client and (ii) regulated substances, including petroleum, that are present at, released to or from, treated at, or removed from, the site.

**13. Closure**

**[Delete the paragraph below and replace with "Not Applicable." if the contract scope of work does not include a demonstration of attainment and RACR]**

The Consultant shall remove all associated remediation equipment and materials including utilities and from the site within sixty (60) days of receipt of DEP approval of its Remedial Action Completion Report. The Consultant shall abandon all wells (including preexisting wells from the site characterization), borings, trenches, and piping/utility runs installed by the Consultant as part of corrective action in accordance with all applicable requirements within 60 days of receipt of DEP approval of its Remedial Action Completion Report. Disruption of the Client's normal business shall be kept to a minimum. The Consultant shall return the site to the condition prior to initiation of the Scope of Work. Conditions prior to initiation of the Scope of Work will be established by preparing detailed site plans and photographic documentation.

**14. Governing Law and Assignment**

This Agreement shall be governed by and construed in accordance with the laws of the State of Pennsylvania and it may not be assigned without the prior written consent of the other party.

**15. Modification**

No modification to or waiver of any term of this Agreement shall be valid unless it is in writing and signed by both parties.

**16. Integration**

This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and understandings (whether written or oral) between the parties.

**17. Order of Precedence**

In the event of a conflict in the terms and conditions of this Agreement, the following order of precedence shall apply:

A. This Agreement
B. The Scope of Work (Exhibit A)
C. Schedule of Fixed Prices (Exhibit B)
D. Consultant Bid Response [**or Proposal**] Document dated **[Insert Date of Bid Response]**
E. The Request for Bid Document dated **[Insert Date of RFB Document]**
F. Task Orders (if applicable)
G. Other Contract Documents

**18. Notice**

Any notice, request, demand or communication which is or may be required to be given

hereunder shall be deemed given when sent by registered or certified mail, return receipt requested, postage prepaid, to the following addresses:

If to Client: **[Insert Facility Name]**
Attn: **[Insert Point of Contact]**
**[Insert Street Address]**
**[Insert Township Name]**, Pennsylvania **[Insert Zip Code]**

If to Consultant: **[Insert Environmental Consulting Firm Name or Acronym]**
Attn: **[Insert Point of Contact]**
**[Insert Point of Contact Job Title]**
**[Insert Street Address]**
**[Insert Township Name]**, Pennsylvania **[Insert Zip Code]**

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by its duly authorized representative in two identical counterparts on the day and year first above written.

For: **[Insert Facility Name]**

By: _____
Date

Name: _____

Title: _____

For: **[Insert Environmental Consulting Firm Name or Acronym]**

By: _____
Date

Name: _____

Title: _____

# EXHIBIT A
# SCOPE OF WORK

**(Scope of Work is defined here as described in Section 2b)**

**Location: [Insert Facility Address]**

**Goals:**

**[Delete the following paragraphs and substitute contract-specific goals if the contract scope of work cannot reasonably be expected to remediate the site to the selected cleanup standards and the contract scope of work does not include a demonstration of attainment]**

The goal of this project is to cost effectively clean up the site in a reasonable timeframe to obtain a PADEP Relief of Liability under Act 2 by achieving the remediation standard(s) specified for soil and groundwater in a PADEP-approved RAP.

Obtain Pennsylvania Department of Environmental Protection (PADEP) approval of Final Remediation Completion Report using a PADEP approved standard for benzene, toluene, ethylbenzene, xylenes, methyl-tert-butyl ether (MTBE), isopropylbenzene, and naphthalene (the compounds of concern or COCs) (the "Standard"), associated with the documented releases of **[Insert name of released product]** on **[Insert Date]** and **[Insert Additional Dates, if necessary]** which are referenced as PADEP Facility Identification Number **[Insert Facility ID Number]**.

**Strategy/Scope of Work:**

The Strategy/Scope of Work is described in the Bid Response Document dated **[Insert Date]** and the Request for Bid Document dated **[Insert Date of RFB Document]**, with the following exceptions:

- [Insert Site Specific Information or "None"]

**Site Specific Assumptions:**

The Site Specific Assumptions are described in the Bid Response Document dated **[Insert Date]** and the Request for Bid Document dated **[Insert Date of RFB Document]**, with the following exceptions:

- [Insert Site Specific Assumptions or "None"]

# EXHIBIT B
# Schedule of Fixed Prices
{INSERT SITE-SPECIFIC INFORMATION}

**Milestones:**

| ID | Milestones<br>Sub-Milestones | Estimated Schedule to Complete | Amount (dollars $) |
|---|---|---|---|
| A | Remedial Action Plan Final Design, specifications, procurement, purchase of equipment and groundwater monitoring | 1 quarter Q1 | $Insert Amount |
| B1 | Remedial System Installation:<br>Trenching & piping and groundwater monitoring | 1 quarter Q2 | $ Insert Amount |
| B2 | Remedial System Installation:<br>Equipment Installation, Start-up of System, 1st quarter of Remedial System O&M and groundwater monitoring | 1 quarter Q3 | $ Insert Amount |
| C1 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q4 | $ Insert Amount |
| C2 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q5 | $ Insert Amount |
| C3 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q6 | $ Insert Amount |
| C4 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q7 | $ Insert Amount |
| C5 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q8 | $ Insert Amount |
| C6 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q9 | $ Insert Amount |
| C7 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q10 | $ Insert Amount |
| C8 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q11 | $ Insert Amount |
| C9 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q12 | $ Insert Amount |
| C10 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q13 | $ Insert Amount |
| C11 | Remedial System O&M & Groundwater Monitoring | 1 quarter Q14 | $ Insert Amount |
| D1 | Attainment Sampling: Soil & Groundwater | 1 quarter Q15 | $ Insert Amount |
| D2 | Attainment Sampling: Groundwater | 1quarter Q16 | $ Insert Amount |
| D3 | Attainment Sampling: Groundwater | 1quarter Q17 | $ Insert Amount |
| D4 | Attainment Sampling: Groundwater | 1quarter Q18 | $ Insert Amount |
| D5 | Attainment Sampling: Groundwater | 1quarter Q19 | $ Insert Amount |
| D6 | Attainment Sampling: Groundwater | 1quarter Q20 | $ Insert Amount |
| D7 | Attainment Sampling: Groundwater | 1quarter Q21 | $ Insert Amount |
| D8 | Attainment Sampling: Groundwater | 1quarter | $ Insert |

| | | | |
|---|---|---|---|
| | | Q22 | Amount |
| F | DEP Approval of the Final Remediation Completion Report and Post Remediation Activities/Site Restoration | 2 quarters Q24 | $ Insert Amount |
| | TOTAL CONTRACT CEILING | Q24 | $Insert Total Amount |

**Additional Measures:**

**[Delete the paragraph below and replace with "Not Applicable." if Section 8 also contains the words "Not Applicable"]**

If demonstration of attainment of the Standard can not be initiated within this defined schedule, Consultant shall conduct the following additional measures ("Additional Measures"):

- Perform four (4) quarters (12 months) of Remedial System O&M and Groundwater Monitoring.

# EXHIBIT C
# PAYMENT REQUEST SCHEDULE

{INSERT SITE-SPECIFIC INFORMATION INTO THIS TABLE}

| Milestone Identification | | Supporting Documentation | Completion Date (months) | Payment Request Amount ($) |
|---|---|---|---|---|
| A | Remedial Action Plan Final Design, specifications, procurement, purchase of equipment and groundwater monitoring | ▪ RAP Final Design & Specifications<br>▪ DEP approval letter of RAP<br>▪ Groundwater Sampling Report | | |
| B1 | Remedial System Installation: Trenching & piping and groundwater monitoring | ▪ Design Specifications<br>▪ Vendor Invoices<br>▪ Groundwater Sampling Report<br>▪ Photo Documentation | | |
| B2 | Remedial System Installation (in accordance with this Agreement Section 2b): Equipment Installation, Start-up of System, 1st quarter of Remedial System O&M and groundwater monitoring | ▪ Remediation Status Progress Report with groundwater sampling results and remedial system performance data (hours in operation, gallons extracted and treated, extraction wells operating, repairs and notes)<br>▪ Photo Documentation | | |
| C1-11 | Remedial System O&M & Groundwater Monitoring | ▪ Remediation Status Progress Report with Groundwater Sampling results | | |
| D1 | Attainment Sampling: Soil & Groundwater | ▪ Soil & Groundwater Attainment Sampling Report | | |
| D2-8 | Attainment Sampling: Groundwater | ▪ Groundwater Attainment Sampling Report | | |
| F | DEP Approval of Remedial Completion Report, and Post Remediation Activities/Site Restoration | ▪ DEP Approval Letter of Remedial Action Completion Report<br>▪ Letter report verifying well abandonment by Licensed Driller and PG<br>▪ Photo Documentation | | |

# EXHIBIT D
# SUPPORTING DOCUMENTS

# ATTACHMENT 3

# Standardized Bid Format