COMPETITIVE FIXED-PRICE BID SOLICITATION

REMEDIAL ACTION PLAN IMPLEMENTATION, ADDITIONAL OFF-PROPERTY GROUNDWATER AND SOIL VAPOR CHARACTERIZATION, AND CONTINUED GROUNDWATER MONITORING, SAMPLING AND REPORTING.

UNITED REFINING COMPANY OF PENNSYLVANIA
KWIK FILL STATION M-108
102 RACE STREET
CLEARFIELD, CLEARFIELD COUNTY, PA 16830

PADEP FACILITY ID #17-14820 PAUSTIF CLAIM #2010-0020(S)

May 27, 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, United Refining Company of Pennsylvania (hereafter referred to as the Client or Solicitor). In general, this RFB primarily references a scope of work (SOW) for implementing the Remedial Action Plan (RAP) prepared for this facility by the current consultant of record and approved by the Pennsylvania Department of Environmental Protection (PADEP). The various RAP implementation tasks described under the SOW generally require installation of a vacuum-enhanced groundwater extraction ("VEGE") remediation system, system start-up and troubleshooting, and two-years of system operation and maintenance. The SOW also includes tasks for installing one off-property groundwater monitoring well, soil vapor monitoring point installation and sampling, quarterly groundwater monitoring, sampling and reporting, and a VEGE system performance evaluation. Figure 1 depicts the site location on a 7.5-minute topographic map.

At this time, the Solicitor wishes to pursue a PADEP Act 2 closure for soil and groundwater based on demonstrating attainment with the Statewide Health Standards (SHS) for a used aquifer in a residential setting. To achieve this objective, 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 7) will be embodied in a Fixed-Price Agreement (see Attachment 2) executed by the Solicitor and the selected consultant.[1] Although not a party to the Agreement, the Fund will reimburse 100 percent of the reasonable, necessary, and appropriate costs associated with the performance Milestone Payment Schedule specified in Section 4 below and as incorporated into the signed Agreement. The SOW tasks consist of the following:

Task 1. Installation of One Off-Property Groundwater Monitoring Well (*Contingency Task*)
Task 2. Installation of One Off-Property Soil Vapor Monitoring Point and Soil Vapor Sampling (*Contingency Task*)
Task 3. Final Design / Specification and Installation and Start-Up of a VEGE Remediation System

[1] The duration of the fixed-price Contract Agreement will be for a maximum of two years. Following the two-year contract period, a sole-source negotiated bid or competitive bid solicitation will be sought to either continue VEGE system operation and maintenance, with system modifications if necessary, or possibly to pursue site closure under an alternate remedial strategy or standard if warranted by remedial system performance and site conditions. Should the site be remediated to the satisfaction of the PADEP in less than two years, the contract would be terminated at that time and attainment demonstrations, RACR preparation, and site closure will be completed pursuant to a sole-source negotiated bid or competitive bid solicitation.

Task 4. Operation and Maintenance (O&M) / Monitoring of VEGE System for Two Years
Task 5. Continued Quarterly Groundwater Monitoring and Sampling
Task 6. Preparation and Submittal of Quarterly Remedial Action Progress Reports (RAPR)
Task 7. Evaluation of VEGE System Performance

Bidders should note that the current consultant of record will remain responsible for ongoing quarterly groundwater monitoring, sampling and reporting and periodic inspections of the kiosk sub-slab ventilation system until the Solicitor and the consultant selected pursuant to this solicitation have executed an Agreement. Also during the competitive bid process, the current consultant will work toward securing an access agreement to install the off-property groundwater monitoring well and soil vapor monitoring point, and will complete the trenching and installation of subsurface piping for the VEGE remediation system and connect the piping to the system recovery wells as described in more detail below. Note also that contingency site characterization Tasks 1 and 2 may or may not need to be completed under this RFB solicitation depending on whether the current consultant is able to secure an access agreement to install the off-property well and soil vapor monitoring point during the competitive bid process.[2]

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. Note that the digital version must be limited to one single integrated Adobe PDF file. ***The outside of the bid response package must be clearly marked and labeled with "Bid – Claim* #2010-0020(S)."**

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 June 24, 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.

[2] No other site characterization work is included in this RFB SOW. Should additional site characterization work be required during implementation of the prescribed RFB SOW, such work will be considered out-of-scope subject to the changed conditions clause of the fixed-price Agreement.

1. ICFI, SOLICITOR, AND TECHNICAL CONTACT INFORMATION

ICF International	Solicitor	Technical Contact
Mr. Jerry Hawk ICF International 4000 Vine Street Middletown, PA 17057	Scott C. Wonsettler, P.G. United Refining Company of PA 814 Lexington Avenue P.O. Box 688 Warren, PA 16365	Mr. Robert Breakwell, P.G. Excalibur Group, LLC 1193 State Road Monessen, PA 15062 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,[3] 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 Kwik Fill M-108 facility is located at 102 Race Street in Clearfield, Clearfield County, Pennsylvania (Figure 1) and currently supports active retail gasoline storage and sales. Existing features on this approximate 0.38-acre parcel consist of a small cinder-block kiosk constructed on a concrete slab located in the central portion of the property, two dispenser islands located beneath a canopy on each side of the station kiosk, a cinder-block restroom building positioned near the southwest corner of the property, and a small storage shed located at the southern property boundary. Three 10,000-gallon unleaded gasoline USTs (#001, #002 and #003) are present in a common cavity at the western property boundary. The USTs were reportedly installed in August 1971 and lined with fiberglass in 1990.[4] In addition to the unleaded gasoline USTs, a 175-gallon heating oil aboveground storage tank is present at the southwest side of the restroom building. Seven groundwater monitoring wells (MW-1 through MW-4, MW-6, MW-7 and MW-8), four soil vapor monitoring points (VP-1 through VP-4), two groundwater recovery wells (RW-1 and RW-2) and one air-sparge well (AS-1) were installed on the property during site characterization and remedial feasibility testing activities completed in 2010. Three groundwater monitoring wells (MW-5, MW-9 and MW-10) and one soil vapor monitoring point (VP-5) were completed at off-property locations. Traffic areas of the property are asphalt paved and the dispenser and UST areas are covered with concrete slabs. Key on-and off-property features are depicted in Figure 2.

A sanitary sewer line extends southward along Krebs Avenue near the western edge of the property and enters the restroom building at the southwest side of the property. The top of the sanitary sewer was

[3] 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.
[4] Information regarding use of the property prior to the Solicitor's purchase from a private party in September 1969 was unavailable.

identified at a depth of approximately 3 to 4 feet below grade (ft-bg) during previous site characterization activities. Public water is supplied by the Clearfield Municipal Authority through an underground line that extends along the northern and western sides of the property and enters the property near the restroom building. Information regarding the depth of the water line was not available. Additionally, an underground electric line is present near the southwest corner of the property and cathodic protection lines were identified in the central portion of the property near the UST field and dispenser island areas. Overhead electric and telephone lines exist along the west and northwest property boundaries. The locations of buried and overhead utilities are depicted in Figure 2.

Surrounding the Kwik Fill M-108 facility are commercial and residential parcels. Specifically, to the east across Race Street is a catering business and several single family residences; to the south is a Pizza Hut restaurant; single-family residences are present to the west across Krebs Avenue; and a furniture store and residential area exist to the north beyond railroad tracks.

On February 12, 2010, facility personnel observed low product flow from the regular unleaded gasoline dispenser that was apparently caused by activation of the line leak detector. Upon further investigation, it was discovered that the metallic flex connector attached to the submersible pump of the regular unleaded gasoline UST (tank #001) was leaking and the UST system was immediately taken out of service. The flex connector was replaced on February 15, 2010. Shortly thereafter, the Solicitor retained the services of the current consultant to develop and implement a plan for site characterization and to assess the need for interim remedial actions. The current consultant performed site characterization work and remedial feasibility testing in 2010 and submitted a combined Site Characterization Report / Remedial Action Plan (SCR / RAP) to the PADEP on February 2, 2011. The SCR / RAP was approved by the PADEP with modifications in a letter dated February 24, 2011. The modifications generally called for additional off-property subsurface characterization southeast of the facility (may need to be completed as defined under contingent Tasks 1 and 2 of this RFB) and an update on the status of the kiosk sub-slab ventilation system (system installation completed by the current consultant). A copy of the SCR / RAP and PADEP approval letter are provided in Attachment 1. A summary of key information extracted from the SCR / RAP is provided below.

Site Characterization

- A sensitive receptor survey conducted for the facility and adjacent properties identified the following potentially sensitive environmental receptors:

    - Adjacent downgradient residential and commercial properties (presumably with basements).
    - Moose Creek (nearest surface water body located approximately 560 feet northeast and cross-gradient of the facility).
    - West Branch of the Susquehanna River (located about 965 feet southeast and downgradient of the facility).

  Additionally, because the depth to groundwater beneath the facility ranges from approximately 5.5 to 11.5 ft-bg, local underground utilities could potentially serve as contaminant migration pathways.

  Unconsolidated deposits beneath the property and adjacent areas consist of alluvial sand and gravel with varying intervals of sand, silt and clay to depths greater than 20 ft-bg (deepest boring completed during the site characterization). Note that an atypically thick sandy to silty clay interval was encountered at the location of well MW-6 in the northern portion of the facility which extends from approximately 4 to >20 ft-bg.

- Bedrock was not encountered in any of the borings completed during the site characterization. Bedrock beneath the facility is believed to consist primarily of fine to coarsely conglomeritic

sandstone with subordinate amounts of shale, siltstone, limestone and coal (Pottsville Formation). The SCR did not provide an estimate of the depth to bedrock.

- Groundwater flow within the shallow unconsolidated alluvial deposits is toward the southeast in the general direction of the West Branch of the Susquehanna River.

- Beneath the facility, the average depth to groundwater is approximately 9.7 ft-bg. The most recent static depth to groundwater measurements available (January 2011) ranged from 7.22 (MW-9) to 11.72 (MW-4) ft-bg.

- The average horizontal hydraulic gradient was calculated to be about 0.01 ft/ft (1%).

- Site soil was characterized by advancing and sampling 26 on- and off-property borings including soil borings SB-1 through SB-11; monitoring, recovery and air-sparge well borings MW-1 through MW-10, RW-1, RW-2 and AS-1; and soil vapor monitoring point borings VP-4 and VP-5 (see Figure 2 for boring locations). These borings were advanced to depths ranging from approximately 4 to 20 ft-bg and samples were collected from various depth intervals providing results for unsaturated and saturated soils. During the soil investigation, a total of 50 samples were obtained and submitted for laboratory analysis of the current PADEP short-list of unleaded gasoline parameters including benzene, toluene, ethylbenzene, xylenes (BTEX), cumene, methyl tert-butyl ether (MTBE), naphthalene, 1,2,4-trimethylbenzene (TMB) and 1,3,5-TMB. A comparison of the soil analytical data to the PADEP Act 2 SHS Medium Specific Concentrations (MSCs) for a used aquifer in a residential setting reveals that benzene and TMBs are the primary constituents of concern (COCs) in unsaturated and saturated site soil

  As expected, the most severely impacted soil is present near the southeast corner of the UST field where the gasoline release occurred. In addition to the analyses of unleaded gasoline parameters, soil samples were collected from boring SB-7 and analyzed for fraction organic carbon, bulk density and porosity to assist with the contaminant fate and transport modeling. Tabulated soil analytical results, soil isoconcentration maps, laboratory analytical reports and soil boring logs are presented in the February 2011 SCR / RAP provided in Attachment 1.

- Groundwater samples have been collected and analyzed from ten groundwater monitoring wells (MW-1 through MW-10) and two groundwater recovery wells (RW-1 and RW-2). These wells intersect shallow groundwater within the unconsolidated alluvial deposits and range in depth from approximately 15.5 to 20.0 ft-bg. Monitoring wells MW-1 through MW-5 and the two recovery wells were constructed with 4-inch diameter polyvinylchloride (PVC) casing and monitoring wells MW-6 through MW-10 were installed using 2-inch diameter PVC casing. Screen lengths for the monitoring and recovery wells range from 10.5 to 15 feet. Groundwater monitoring wells MW-5, MW-9 and MW-10 were installed at off-property locations. Monitoring and recovery well locations are indicated in Figure 2 and boring logs / well construction details are contained in the February 2011 SCR / RAP in Attachment 1.

- Six groundwater monitoring and sampling events have been completed for monitoring wells MW-1 through MW-5 (May, June, September and October 2010 and January and April 2011); four events have been completed for monitoring and recovery wells MW-6, MW-7, MW-8, RW-1 and RW-2 (September and October 2010 and January and April 2011); and three events have been completed for monitoring wells MW-9 and MW-10 (December 2010 and January and April 2011). Groundwater samples collected during each of these events were analyzed for the current PADEP short-list of unleaded gasoline parameters and the analytical results were compared to the PADEP Act 2 SHS MSCs for a used aquifer in a residential setting. In general, the historical groundwater analytical database reveals that benzene and TMBs have been the primary COCs in shallow groundwater

consistent with the soil analytical results. Levels of the other unleaded gasoline constituents, however, have also been present above the applicable standards.

The most severely impacted wells are MW-3, MW-4 and RW-2 positioned hydraulically downgradient of the UST field source area. From the source area, the dissolved-phase contaminant plume generally extends the southeast as influenced by groundwater flow. Note that off-property groundwater impacts above applicable standards have been present in Well MW-5 positioned west of the UST field. Dissolved impacts above standards could also exist on the adjacent Pizza Hut property to the southeast which will be determined through the installation of an additional off-property well (potentially under Task 1 this RFB SOW). Tabulated groundwater analytical results, dissolved contaminant isoconcentration maps and laboratory analytical reports are presented in the February 2011 SCR / RAP contained in Attachment 1. Groundwater analytical data from the most recent April 2011 sampling event is also provided in Attachment 1.

- Slug testing performed within wells MW-1, MW-2 and MW-4 provided an average hydraulic conductivity estimate of 1.2643 ft/day for the shallow unconsolidated water-bearing zone. The average linear groundwater velocity was estimated to be 0.057 ft/day.

- Five soil vapor monitoring points were installed and sampled including on-property monitoring points VP-1 through VP-4 and off-property monitoring point VP-5 (see Figure 2). From October 2010 through January 2011, three soil vapor sampling events were completed at VP-1, VP-2 and VP-3 and two events were completed at VP-4 and VP-5. Soil vapor samples were analyzed for the current PADEP short-list of unleaded gasoline parameters including BTEX, cumene, MTBE, naphthalene, 1,2,4-TMB and 1,3,5-TMB. Soil vapor analytical results were compared to the PADEP Act 2 residential indoor air (RIA) MSCs. In general, the analytical results reveal that benzene is the primary vapor-phase COC and was consistently detected above the applicable standard of 0.270 mg/m^3 in samples collected from VP-1, VP-2 and VP-3 located near the UST field, restroom building and kiosk, respectively. Over the three sampling events conducted for VP-1, VP-2 and VP-3, vapor-phase benzene concentrations ranged from 1.75684 (VP-1) to 1039.16840 (VP-1) mg/m^3. Toluene and ethylbenzene have also been identified above the applicable standards in monitoring points VP-1 and VP-3 and total xylenes was present above the standard in VP-3.[5] No vapor-phase unleaded gasoline compounds exceeded the applicable standards in VP-4 or VP-5. Tabulated soil vapor analytical data, laboratory reports, and vapor monitoring point construction details are provided in the February 2011 SCR / RAP.

- Contaminant fate and transport modeling completed for the shallow unconsolidated water-bearing zone generally predicts that absent remedial efforts, benzene, toluene, ethylbenzene, MTBE, naphthalene, 1,2,4-TMB and 1,3,5-TMB will reach the downgradient property boundary at concentrations above the used aquifer, residential MSCs. Additional details regarding the model input, output and conclusions, including the estimated maximum distance the dissolved-phase plumes are expected to travel in 30 years (using the used aquifer, residential MSCs as the end point), are provided in the February 2011 SCR / RAP.

- A qualitative analysis of potential exposure pathways and sensitive receptors generally concluded that:
    - Direct contact with subsurface soil is a potential exposure pathway and will require remediation.
    - Dissolved-phase impacts will require remediation due to the potential for ingestion and the degradation of ambient or indoor air quality.

[5] Other unleaded gasoline compounds may have been present above applicable standards in the samples collected from VP-1, VP-2 and VP-3 although this cannot be determined due to elevated method detection limits above the standards for several compounds.

- Regarding soil vapor inhalation, the maximum constituent concentrations in soil exceed respective Johnson & Ettinger (J&E) default residential and non-residential screening values for BTEX, naphthalene, 1,3,5-TMB and 1,2,4-TMB. With respect to groundwater vapor inhalation, the maximum constituent concentrations in groundwater exceed respective J&E default residential screening values for benzene.

Interim Remedial Actions

Because of the potential risk for exposure to soil and groundwater vapors, an automated sub-slab ventilation system was installed on the facility kiosk during late March / early April 2011. Conducting periodic inspections of the kiosk ventilation system is discussed under Task 4 this RFB. Bidders will have the opportunity to inspect the sub-slab ventilation system during the mandatory pre-bid site visit described in Section 6.0. Additionally, high intensity treatment (HIT) events were conducted from July through December 2010 in an effort to reduce dissolved-phase concentrations. Specifically, HIT events were completed on wells MW-3, MW-4, RW-1 and RW-2 over five separate events totaling approximately 37 hours. Collectively, about 0.946 pounds of dissolved-phase hydrocarbons were recovered.

Remedial Action Plan

A remedial feasibility study was completed for the Kwik Fill M-108 facility in September 2010 to evaluate various technologies that could be viable for addressing hydrocarbon impacts in soil and groundwater. Feasibility testing included: (1) soil vapor extraction (SVE) at RW-2; (2) air sparging at AS-1 with SVE at RW-2; (3) groundwater extraction at RW-2; (4) VEGE at RW-2; (5) groundwater recharge at RW-2; (6) groundwater extraction at RW-1; and (7) VEGE at RW-1. Based on results provided from the site characterization work and the remedial feasibility study, installation of a VEGE remediation system was identified by Solicitor's consultant as the most viable approach for addressing impacted soil and groundwater at the site. Installation, operation & maintenance (O&M), and monitoring of the proposed VEGE system represent the key components of this RFB SOW (Tasks 3 and 4) which are defined under Section 3 below. Specific information regarding system components, system installation, O&M requirements and system monitoring can also be found in the February 2011 SCR / RAP in Attachment 1.

After the SCR / RAP was approved by the PADEP in late February 2011, a new release of unleaded gasoline was discovered on March 29, 2011. According to the Solicitor, the source of the new release was a faulty line leak detector associated with the same UST responsible for the previous gasoline release (regular unleaded gasoline UST #-001). Initial reconnaissance revealed about 1/8-inch of separate-phase hydrocarbons in recovery well RW-2 and a subsequent sampling event conducted in April 2011 revealed moderate to substantial increases in dissolved contaminant concentrations in a limited number of wells (most notably in wells MW-4 and RW-2 immediately downgradient of the UST source area). Two or three vacuum extraction events have been completed since the new release to assist with mitigating subsurface impacts. Given that the February 2010 and March 2011release events generally have a common source, the PADEP reportedly believes that augmentation of the existing and proposed monitoring and recovery well network should not be required and that the VEGE remedial strategy can proceed as planned.

Additional information on the site and surrounding area is included in the documents listed in Attachment 1, which is posted with this solicitation on the PAUSTIF web site.[6] The bidder should review this historical information carefully along with the information contained in this section. If there is any conflict between the information provided in this RFB and the source documents, the bidder should defer to the source documents. The Solicitor does not represent nor provide any warranty that the information provided with and in this RFB Solicitation is necessarily complete or sufficient for completing the identified scope of work. Therefore, ***each bidder should rely and base its bid upon its own evaluation of the***

[6] The best scanned-in version of each document available has been provided.

***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.

3. SCOPE OF WORK

The Solicitor seeks competitive, fixed-price bids to complete the seven tasks outlined below. To be deemed responsive, each bid must respond in detail to each of the SOW tasks 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 7 will require prior written approval by the Solicitor **and PAUSTIF** through its third-party administrator, and may require PADEP pre-approval.

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).

At the PADEP's request, start-up of the VEGE remediation system must occur on or before September 30, 2011. Also, Task 7 (VEGE System Performance Evaluation) must be completed and the report submitted to ICFI no later than 60-days before expiration of the two-year contract. **Each bidder's proposed project schedule must meet these requirements clearly and unambiguously.**

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, Quality Assurance/Quality Control, 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 7, 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 5, 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 5.

- 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 – Installation of One Off-Property Groundwater Monitoring Well (*Contingency Task*). This task may potentially need to be completed by the selected bidder should the new off-property well not be installed by the current consultant during the competitive bid process. Therefore, under this task, bidders shall provide a firm fixed-price cost for installing one (1) additional off-property groundwater monitoring well (MW-11). The additional monitoring well is intended to assist with delineating the horizontal extent of dissolved-phase contaminants in shallow groundwater and to refine the interpretation of shallow groundwater movement. The new off-property well shall be positioned near the northeast corner of the Pizza Hut parking lot which adjoins the southern property boundary of the Kwik Fill M-108 facility. The well location, as specified by the Solicitor based on its discussions with the PADEP, is depicted on the aerial photograph base map provided in Attachment 1.[7] Installation of the new off-property well is expected to be completed by the selected bidder immediately following contract award and utility clearance by selected bidder and concurrent with procuring system components for the VEGE remedial system (Task 3).

For the purpose of this bid solicitation, the fixed-price cost for this task shall assume that an access agreement will already have been established between the Solicitor and the third-party owner of the Pizza Hut property[8] to allow the Solicitor and its agents access to the property for completing the activities specified under this task. If this is not the case, securing an access agreement will need to be completed by the selected bidder as an out-of-scope activity subject to the changed conditions clause of the Agreement.

The selected consultant shall advance the monitoring well boring using standard 4-1/4-inch inside diameter hollow stem augers in conjunction with continuous split-spoon sampling and standard penetration tests. Continuous soil core samples shall be examined in the field and described for lithology, groundwater occurrence, and potential staining / odor indicative of hydrocarbon contamination. Additionally, soil core samples shall be screened in the field with a photoionization device (PID) using industry-standard headspace methods, although no soil samples will be collected for laboratory analysis unless elevated PID measurements and / or visual or olfactory observations suggest petroleum impacts. Bidders shall quote a unit cost for sample collection and laboratory analysis in the event samples are collected under this task. If any samples are collected for laboratory analysis, these samples shall be analyzed for the post-March 2008 PADEP short list of unleaded gasoline parameters.

[7] Should one or more additional horizontal or vertical delineation wells be required, this work will be considered an out-of-scope task subject to the changed conditions clause of the contract agreement. Solicitor and PAUSTIF approval will also be required before beginning such work.
[8] Pizza Hut leases the property from a third-party owner identified by the Solicitor as Tri-L Company.

The new monitoring well shall be completed to intercept shallow groundwater occurring in the unconsolidated alluvial materials consistent with the existing network of shallow wells. The well shall be installed according to the construction detail provided in Attachment 1, as developed by the Solicitor, and in accordance with the PADEP Groundwater Monitoring Guidance Manual. In general, the construction detail indicates that the well shall attain a depth of approximately 15 ft-bg and shall be constructed using 2-inch diameter PVC riser and well screen (11 feet) with an attached bottom plug. Annulus materials shall consist of a filter-pack of silica sand overlain by a hydrated bentonite pellet seal followed by a cap of cement grout. Surface finishing shall consist of an expandable locking cap fitted to the top of the PVC riser and a flush-mounted traffic-rated manhole with a bolt-on lid set into a 2 ft by 2 ft concrete pad. Based on the proposed well construction and existing depth to groundwater data, the screened interval is expected to intersect the water table surface and account for seasonal groundwater fluctuations. However, the selected consultant shall monitor groundwater occurrence closely during the drilling phase in the event adjustments to the well depth or screened interval become necessary. Note that should the well be installed with a submerged screen, it will be replaced at the selected consultant's sole expense. Although not expected, in the event that more or less drilling footage is required beyond that estimated above, bidders shall provide a unit cost per foot for any additional borehole advancement, logging, screening and well installation.

Each bidder's fixed-price cost for this task shall account for: (i) identifying subsurface utilities and other buried features of concern, including, but not necessarily limited to, contacting PA One Call and clearing the borehole location to a minimum depth of 5 ft-bg using vacuum excavation; (ii) well development activities; (iii) management of investigation-derived wastes; and (iv) professional surveying of the well location and top-of-casing / ground surface elevation. Bidders shall manage solid wastes and groundwater generated by the well development activities in accordance with standard industry practices and applicable laws, regulations, guidance and PADEP directives. Well drilling / installation and development activities along with supporting documentation (e.g., waste manifests, boring logs and construction details, etc.) shall be documented in the concurrent quarterly Remedial Action Progress Report (RAPR). Gauging and sampling of this new well shall be incorporated into the ongoing quarterly groundwater monitoring and sampling program described under Task 5.

Task 2 – Installation of One Off-Property Soil Vapor Monitoring Point and Soil Vapor Sampling (*Contingency Task*). Similar to Task 1, this task may potentially need to be completed by the selected bidder should the new off-property soil vapor monitoring point not be installed and sampled by the current consultant during the competitive bid process. Therefore, under this task, bidders shall provide a fixed-price cost for installing and sampling one (1) additional off-property soil vapor monitoring point (VP-6) positioned near the northeast corner of the Pizza Hut parking lot as specified by the Solicitor and depicted on the aerial photograph provided in Attachment 1. Bidders shall assume that an access agreement will have already been secured between the Solicitor and the third-party owner of the Pizza Hut property. In the event this has not occurred before the contract is signed with the winning bidder, securing access would be considered a change to the contract and would be handled accordingly. Installation and sampling of the soil vapor monitoring point shall conform to the requirements and guidance specified in the *Land Recycling Program Technical Guidance Manual – Section IV.A.4, Vapor Intrusion into Buildings from Soil and Groundwater*. Installation of the soil vapor monitoring point shall coincide with the well installation activities described under Task 1. The installed soil vapor monitoring point shall be sampled twice over a period of two months with each sampling event separated by a period of at least four (4) weeks. In the event that one or more additional soil vapor monitoring points could eventually be required, bidders shall quote an all-inclusive unit price for soil vapor monitoring point installation, sampling, and analysis.

Each soil vapor sample shall be collected in pre-certified Summa canisters supplied by the analytical laboratory. The Summa canisters shall be fitted with a properly calibrated regulator to allow an approximate 8-hour draw so that each sample represents an 8-hour time-weighted composite. All soil vapor samples shall be submitted to a PADEP-accredited laboratory for analysis of the current PADEP

short-list of unleaded gasoline parameters using Method TO-15 and appropriate detection levels. Appropriate QA/QC samples shall also be collected and analyzed for the same unleaded gasoline compounds. Installation and sampling methods / results for the new soil vapor monitoring point shall be documented in the concurrent quarterly RAPR along with any recommendations regarding the necessity for an expanded vapor intrusion assessment that might need to include indoor air quality sampling, if appropriate.

Task 3 – Final Design / Specification and Installation and Start-Up of a VEGE Remediation System. Under this task, bidders shall provide a firm fixed-price cost for finalizing the design and specifications and for the installation and start-up of the RAP system. Specifically, the successful bidder / selected consultant shall further develop and finalize the remedial system design and specifications presented in the RAP so that the successful bidder is able to install a proper and effective functioning system in fulfillment of the RAP. Design elements to be finalized include equipment and materials specification, instrumentation / controls, drawings (e.g., P&ID), and permit requirements / plan. Having completed the final design of the RAP remedy, the successful bidder will have responsibility for the design and shall, therefore, be responsible for ensuring that the installed system properly operates as intended by the RAP. By submitting a bid, the bidder agrees that the RAP remedy can be expected to be effective and successfully implemented by adding additional design details and specifications in the final design but without significant or fundamental modifications to the RAP.

The selected consultant shall also be responsible for developing a checklist to be completed by field technicians during O&M visits that will provide key information deemed necessary to continually evaluate remediation performance, permit compliance, and system maintenance. The RAP Final Design documentation (including O&M checklist) shall be submitted to and approved by the Solicitor prior to the purchase of equipment.

Once the successful bidder has finalized the design for a VEGE remediation system, the successful bidder shall implement the successful bidder's design / specifications in accordance with the RAP, industry standards and accepted engineering and construction practices. Given the PADEP's request that the VEGE remediation system be operative before the end of September 2011, several system installation activities will be completed by the current consultant before a contract is executed under this RFB solicitation to expedite system start-up. System installation activities completed by the current consultant will include: 1) trench excavation and installation of the subsurface groundwater and vapor recovery piping; 2) installation of subsurface compressed air supply lines for the recovery well pneumatic pumps; 3) converting existing two-inch diameter monitoring wells MW-6 and MW-7 to four-inch diameter recovery wells; 4) connecting groundwater and vapor recovery piping and compressed air lines to the recovery wells at the well-heads; and 5) installing surface vaults at each recovery well location.[9]

Therefore, as outlined in the task description below, bidders shall provide fixed-price costs only for obtaining the permits necessary for system installation and operation, constructing the remedial equipment compound, acquiring the required surface components for the RAP-specified VEGE remediation system and installing them within the equipment compound, purchasing and installing pneumatic pumps within the eight (8) system recovery wells, and making appropriate connections to the subsurface piping that will already have been extended to the recovery wells and equipment compound.[10] Note also that the pre-installed VEGE system water discharge line will be terminated near the sanitary sewer tap-in location and the selected consultant will be required to complete this connection to the

[9] The trenching and subsurface piping network for the eight VEGE system recovery wells MW-1, MW-3, MW-4, MW-5, MW-6 MW-7, RW-1 and RW-2 is illustrated in Figure 30 of the February 2011 SCR / RAP. The trench cross sections and well head piping / vault construction diagrams for the eight recovery are depicted in Figures 32 and 33 of the SCR / RAP, respectively.

[10] Any sections of above-grade piping located outside of the equipment enclosure will need to be freeze-protected (e.g., by insulation and heat tracing).

sanitary sewer line in accordance with local authority requirements. Given that the PADEP is expecting remedial system start-up before the end of September 2011, acquisition of the equipment compound and appropriate VEGE system components must be initiated immediately following Solicitor approval of the RAP final design documentation and O&M checklist.

Installation of the Remedial Equipment Compound

The selected consultant shall construct a heated, insulated and ventilated shed on a concrete pad of sufficient size to adequately house the VEGE remedial system equipment and provide ample room for easily accessing the equipment for inspection, monitoring, and maintenance purposes. The equipment shed shall be located at the southern property boundary as indicated in Figure 30 of the SCR / RAP. Each bidder shall describe in detail its proposed shed dimensions and construction materials, if not already adequately specified in the RAP. Additionally, a fenced area adjacent to the remediation shed shall be constructed to accommodate the vapor phase treatment equipment and control panel. During construction of the remedial equipment compound, the selected consultant shall also coordinate with the local electric provider to install 3-phase electrical service to the equipment compound. An electrical service account shall be established in the selected consultant's name.

Installation of the VEGE Remediation System

As specified in the Solicitor's RAP, extracted soil vapors will be processed through a vapor liquid separator (VLS) before entering a catalytic oxidizer for treatment. Influent groundwater will be pumped into an equalization tank for the removal of sediment from the groundwater stream. A transfer pump will evacuate the equalization tank and pump groundwater through two sediment filters (in parallel arrangement). Following the sediment filters, the extracted groundwater will be treated with an air stripper. A second transfer pump will evacuate the air stripper and process the groundwater through two additional sediment filters prior to being polished by two liquid-phase granular activated carbon (LGAC) units in series arrangement. The air stripper off-gas will be treated by a single vapor-phase granular activated carbon (VGAC) unit.

RAP excerpted equipment specifications and function are listed below:

Equipment	Specifications
Soil Vapor Extraction Blower	The SVE blower shall be capable of operating at a rate of 300 scfm under a system vacuum of 18 in. Hg (at the inlet of the VLS).
Vapor/Liquid Separator	The VLS shall consist of a 120-gallon (minimum) vessel that will create a reduction in air/fluid velocity and allow sufficient residence time for the separation of moisture and vapor. Extracted vapors will be discharged through the top of the separator and condensate will collect at the bottom. Conductivity probes shall be installed in the tank to deactivate the blower in the event of a high water level in the VLS.
Equalization Tank	A 150-gallon tank shall be installed for the settling of sediments in the influent water stream. Level control switches shall be installed for the operation of a transfer pump and for emergency high water shut-off.
Air Compressor	An air compressor capable of 12 scfm at 175 psi shall be installed to supply air to the pneumatic recovery pumps.
Pneumatic Pumps	Four-inch diameter, long-body top-loading pneumatic pumps shall be used for groundwater extraction from each of the eight VEGE recovery wells. The pumps shall be constructed of fiberglass and stainless steel and shall be operated via an internal float mechanism. Each pump shall be rated for 10 gpm.
Transfer Pumps	Transfer pumps shall be used to evacuate groundwater from the equalization tank, VLS, and air stripper and convey extracted groundwater through the treatment components. Each pump shall be rated for 20 gpm at 40 psi.
Sediment Filters	Four (4) bag filter housings shall be included as part of the system for the removal of sediment particles prior to air stripping and before the LGAC treatment. The filters shall be installed in parallel arrangement in sets of two at each location. The housings shall be

	supplied with either 25 or 50 micron bag filters.
Air Stripper	The air stripper shall serve as the primary treatment for dissolved-phase hydrocarbons in recovered groundwater. The groundwater shall be filtered through the top of the stripper and discharged through the bottom and conductivity probes shall be installed in the stripper to deactivate the transfer pump in the event of a high water level condition. Level control probes shall also be installed for the operation of a transfer pump. The air stripper shall have a BTEX removal efficiency of greater than 95% and a MTBE removal efficiency of approximately 78.0%. The air stripper shall be capable of treating a liquid flow rate of 20 gpm and the air stripper blower shall be capable of attaining 280 scfm.
Catalytic Oxidizer	A Falmouth Products catalytic oxidizer (Falco 300) shall be used to treat extracted soil vapors and shall be rated for a maximum flow rate of 300 scfm. The vapor extraction blower shall be controlled with a ball valve to maintain a flow rate of 300 scfm or less during catalytic operation. When the carbon consumption rate is less than 1 pound per day, the catalytic oxidizer shall be taken offline and vapors will be treated through two VGAC units prior to discharge to the atmosphere. Each bidder shall determine and describe in its bid the specifications for these two VGAC units based on pilot test data.
Vapor Phase Granular Activated Carbon	One 375-lb VGAC unit shall be used to treat the air stripper off-gas. The VGAC unit shall be rated for 600 scfm and 5 psi. Carbon sizing and loading calculations are provided in Appendix K of the SCR / RAP.
Liquid Phase Granular Activated Carbon	Two 400-lb high-pressure LGAC units shall be used to remove residual dissolved-phase hydrocarbons in groundwater following treatment by the air stripper. The LGAC units shall be rated for 150 psi and 25 gpm. Carbon sizing and loading calculations are provided in Appendix K of the SCR / RAP.

All equipment and materials procured for installation of the remedial equipment compound and VEGE remediation system shall be new and free of defect and shall be installed and operated according to the manufacturer's guidelines and specifications. All manufacturer's warranties / guarantees shall apply.

The piping and instrumentation diagram (P&ID) legend, the P&ID groundwater system component schematics, and the P&ID vapor system component schematics are provided as Figures 34, 35 and 36 of the SCR / RAP. Engineering calculations for the treatment system design are provided in Appendix K of the SCR / RAP.

As specified in the RAP, the remediation system control panel shall serve as a fail-safe device to monitor and control the remediation system floats and safety switches (critical safety devices). Systems controlled shall include (outputs): (1) SVE blower operations; (2) transfer pump operations; (3) air stripper operation; (4) water level and pressure alarms; and (5) emergency floor sump alarm. An alarm condition in any area shall disable the system. The control panel shall be configured so that the remedial system does not automatically restart in the event of an alarm condition. The operational requirements for this system are 208/230 volt, three-phase, 200 amp, totally enclosed fan cooled motors. All control wiring shall be intrinsically safe.

Additionally, the Solicitor requires that the VEGE remediation system be fitted with a form of telemetry. A copy of the telemetry software shall be provided to the Solicitor. The system shall have the capabilities of notifying system shut down via phone dialing, fax, or e-mail. The successful bidder shall coordinate with the telephone service provider to bring and provide appropriate telephone service to the location of the remediation equipment. Payment of the telephone service connection shall be the responsibility of the bidder and accounted for in the fixed-price bid.

Remedial System Permitting

In general, mechanical work needed to implement the RAP shall conform to all applicable state and local codes. The Solictor's RAP specifies that the equipment compound is to be electrically classified as Class I, Division II area. Structural components shall conform to the International Building Code and electrical work shall conform to the National Electric Code and applicable state and local codes. In accordance

with the RAP, the selected consultant shall secure all required permits (or permit exemptions) including the following, as appropriate:

- Air Discharge Permit – In accordance with Pennsylvania's state air regulations (PA Code 127.14 (a) (8), paragraph 43), PADEP may require the application for a Request for Determination / Plan Approval in addition to providing engineering controls with a minimum VOC removal efficiency of 90% and an annual emissions after treatment of less than one ton per year for VOC and/or hazardous air pollutants. Although not expected, should an application for a Request for Determination / Plan Approval be required by the PADEP, this will be considered an out-of-scope activity under the changed conditions clause of the Contract Agreement.

- Water Discharge Permit – A treated-water discharge permit shall be applied for through the local sanitary authority for discharge to the sanitary sewer system. For the purpose of this RFB solicitation, bidders shall assume that the local sanitary sewer authority (POTW) will approve the discharge permit. If this is not the case and a National Pollutant Discharge Elimination System (NPDES) permit is required, this activity will be considered out-of-scope per the changed conditions clause of the Contract Agreement.

- Building Permit – A building permit shall be acquired from the City of Clearfield for constructing the remedial equipment compound.

The Solicitor shall be provided copies of all permits / permit exemptions before field construction activities commence.

VEGE System Start-Up and Troubleshooting

Following installation, the VEGE remedial system shall be activated. At that time, the successful bidder shall demonstrate to the Solicitor and USTIF (or its agents) proper operation / function of the remediation system equipment prior to payment for this task milestone. At a minimum, such demonstration shall include documentation that: (a) all below- and above-grade equipment is operational; (b) the design parameters are achievable at the treatment system and at the well heads; (c) all safety and control switches function properly; and (d) the system can operate automatically (without manual intervention). The successful bidder shall provide the Solicitor and USTIF with startup documentation demonstrating proper operation of the system. To the extent problems are identified during the start-up phase, the successful bidder shall repair these problems and repeat the proper system operation demonstration. Additionally, the successful bidder will provide the Solicitor with as-built drawings for the remediation system in hard copy form upon completion of the successful startup.

In addition to the above, bidders should note that an agreement to access off-property recovery well MW-5 (former monitoring well MW-5) has already been secured by the Solicitor. Bidders are urged to carefully read the SCR / RAP provided in Attachment 1 for additional details regarding VEGE system installation and start-up.

Task 4 - Operation and Maintenance (O&M) / Monitoring of VEGE System for Two Years. Under this task, bidders shall provide a firm fixed-price cost to conduct approximately two years (22 months) of system O&M checks on a weekly basis for the first month of system operation, and on a bi-monthly basis (i.e., twice per month) thereafter in accordance with the RAP. During these inspections, adjustments shall be made, as necessary, in order to optimize system effectiveness and run-time. Extracted vapor stream concentrations, airflow rates, groundwater flow rates, pressures, and vacuum shall also be monitored.

A summary of system O&M requirements, as excerpted from the SCR / RAP, is provided in the following table.

Unit	Frequency	Maintenance
SVE Blower	Bi-Monthly	Check particulate filter and moisture separator; check temperature
VLS	Bi-Monthly	Check for leakage / blockage and clean probes, as needed
Pneumatic GW Pumps	Monthly	Check for leakage / blockage and clean, as needed
Air Stripper	Bi-Monthly	Check and clean trays as needed; check pressure
Air Compressor	Bi-Monthly	Check pressure, particulate and coalescing filters; check oil level and refill as needed
Transfer Pumps	Bi-Monthly	Verify proper operation and pressure
	Quarterly	Clean impeller casing; inspect viton seals
Cartridge Filters	Bi-Monthly	Check and clean or replace filters; check pressure
		Change cartridge as needed
LGAC	Bi-Monthly	Replace carbon as needed based on system sampling results; back flush as needed
VGAC	Bi-Monthly	Replace carbon as needed based on system sampling results
Catalytic Oxidizer	Bi-Monthly	Check operation temperatures; inspect moisture trap

The total fixed-price cost for this task shall also include performing system monitoring over the two-year contract period. System monitoring shall consist of collecting monthly influent and midfluent (two) groundwater samples from the system to monitor the effectiveness of recovery and treatment activities and determine carbon consumption. Additionally, bidders shall assume that effluent groundwater samples will also be collected and analyzed on a monthly basis (i.e., 3 samples per month). Samples shall be analyzed for the current PADEP short-list of unleaded gasoline parameters. Monthly influent and quarterly midfluent and effluent vapor samples shall also be collected and analyzed for the current PADEP short-list of unleaded gasoline parameters (i.e., 5 air samples / quarter). Additionally, the influent, midfluent and effluent vapor streams will be monitored during each O&M event using a calibrated PID and recorded on site-specific O&M forms. Methods and results for the system O&M and monitoring events shall be documented in quarterly RAPRs to be prepared under Task 6.

Regarding VEGE system expendables, bidders shall provide all-inclusive fixed-rate unit costs for the following items:

- LGAC change-out / unit (following system activation and performed coincident with a routine system O&M event).

- VGAC change-out / unit (following system activation and performed coincident with a routine system O&M event).

The bidders shall incorporate in their bids the necessary number of sediment filter and sediment filter cartridge change-outs needed over the life of the two-year contract to be included under the total fixed-price for this task. Bids shall also include replacement of any other system expendables as necessary or in accordance with manufacturer's recommendations. Because the potential need for repairs to, or replacement of, one or more non-expendable VEGE system components cannot be predicted, such work, if necessary, will be considered out-of-scope and will require Solicitor and ICFI approval before initiating the work. The base fixed-price cost for this task shall also include the bidder's estimate of average monthly electrical charges over the two-year contract period.

During each O&M event for the VEGE remediation system, routine inspections of the kiosk sub-slab ventilation system shall also be conducted. Inspections shall consist of checking to ensure that the system is operating and examining the blower inlet air filter to make sure it is clear of debris. If the system is not operational or if operational problems are suspected during any of the routine inspection events, the Solicitor shall be contacted immediately. As previously mentioned, bidders will have the opportunity to inspect the sub-slab ventilation system during the mandatory pre-bid site visit described in

Section 6.0. Aside from potentially needing to replace the blower inlet air filter[11], there are no other expendable components that would potentially need to be replaced and there are no reporting or sampling / analytical requirements associated with the routine kiosk sub-slab ventilation system inspections.

Task 5 – Continued Quarterly Groundwater Monitoring and Sampling. Under this task, bidders shall provide a firm fixed-price for continuing the ongoing program of quarterly groundwater monitoring and sampling. Bidders shall assume that eight (8) quarterly events will be completed over the duration of the two-year contract. Each quarterly event shall include the 12 existing monitoring and recovery wells (MW-1 through MW-10, RW-1 and RW-2) and new monitoring well MW-11 installed under Task 1 of this RFB solicitation (13 wells total). The conduct and results of each quarterly event shall be documented in a quarterly RAPR to be prepared under Task 6. Quarterly groundwater monitoring and sampling events shall be conducted during the first month of each quarter (i.e., January, April, July, and October). Bidders should note that an agreement to access off-property monitoring wells MW-9 and MW-10 and recovery well MW-5 has already been secured by the Solicitor.

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 monitoring and recovery wells and prior to purging any of the wells for sampling. Groundwater level measurements obtained from the monitoring and recovery wells shall be converted to groundwater elevations for assessing groundwater flow direction and hydraulic gradient. Since groundwater flow direction under ambient static conditions has already been established under the site characterization phase of this project, water levels shall be measured when the system is operating to assess the hydraulic influence of the VEGE system.

Wells not connected to the VEGE system (MW-2, MW-8, MW-9, MW-10 and MW-11) shall be purged and sampled in accordance with the PADEP Groundwater Monitoring Guidance Manual and standard industry practices. Bidders shall assume that the eight recovery wells (MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, RW-1 and RW-2) will not need to be purged prior to sample collection provided the VEGE system was operating within 24 hours of sample collection. 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 quarterly sampling events shall be analyzed for the post-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.[12] Each quarterly groundwater monitoring and sampling event shall include field measurements for these natural attenuation parameters: pH, temperature, specific conductance, dissolved oxygen (measured in-situ), and oxidation/reduction potential.

Should more or less than eight quarterly monitoring and sampling events be required during the two-year contract period, bidders shall provide a comprehensive fixed unit cost per quarterly event. Also, should one or more delineation wells be added over the course of the two-year contract, bidders shall provide an all-inclusive unit cost per well for gauging, purging, sampling and analysis.

Monthly sampling of the VEGE system aqueous discharge shall be conducted with Discharge Monitoring Reports submitted to the Clearfield Municipal Authority (CMA) on a monthly basis. To satisfy POTW

[11] Anticipated to be infrequent or possibly unnecessary during the course of the two-year contract.
[12] Each bidder's approach to implementing Task 5 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.

requirements, aqueous system effluent samples shall be analyzed for the post-March 2008 PADEP short-list of unleaded gasoline parameters via EPA Method 8260 and oil & grease. A remote read totalizer shall be installed on the outside of the system enclosure so that CMA personnel can read the meter. The CMA will bill for the discharged water on a quarterly basis. Note also that Lawrence Township will need to be contacted as well, since it owns the collection system (CMA owns the treatment plant). Bidders are directed to the CMA Rate Schedule provided in Attachment 1.

Task 6 - Preparation and Submittal of Quarterly RAPRs. Bidders shall provide a firm fixed-price cost for preparing and submitting quarterly RAPRs documenting the methods and results from the VEGE system O&M / monitoring efforts (Task 4) and from the quarterly groundwater monitoring and sampling activities (Task 5) completed over each quarter. According to the PADEP's February 24, 2011 SCR / RAP approval letter, RAPRS are required to be submitted on the 30th day of the month following the end of each quarter (i.e., January 30, April 30, July 30, and October 30). Each RAPR shall conform to the requirements of Section 245.312 (c). In addition to those requirements, the PADEP SCR / RAP approval letter also requested that each RAPR include: (1) current and historical field and/or laboratory analyses for all affected media presented in tabular form; and (2) tables presenting monitoring well data including depth to groundwater, groundwater level elevation, screen length, and total well depth. Each RAPR shall be sealed by a Professional Geologist or Professional Engineer registered in the Commonwealth of Pennsylvania. For purposes of this RFB solicitation, bidders shall assume preparing and issuing eight (8) quarterly RAPRs over the duration of the two-year contract.

In the event that more or less than eight RAPRs are required during the two-year contract period, bidders shall provide a comprehensive fixed unit cost per report.

Task 7 – Evaluation of VEGE System Performance. Bidders shall provide a firm fixed-price cost for completing a performance evaluation of the VEGE remediation system during the final quarter of operation under the contract. The evaluation will be conducted in order to assess how effective the system has been at recovering contaminant mass, capturing groundwater and reducing contaminant levels in groundwater after seven quarters of operation. The evaluation shall consider all historical soil and groundwater analytical data and VEGE system operational efficiency / monitoring results including, but not limited to, dissolved contaminant trends, dissolved- and vapor-phase concentrations in system effluent, cumulative dissolved- and vapor-phase hydrocarbon mass removal, and system run-time.

A report documenting the findings and conclusions from the VEGE system performance evaluation shall be prepared and issued to ICFI no later than 60-days before expiration of the two-year contract period to assist with determining an appropriate course of action for moving the site toward closure in the most efficient manner. Based on the system performance evaluation, the report shall also offer recommendations, for example, as to whether the system should continue operating as originally designed and installed, whether system modifications are necessary to enhance performance, whether a period of system shut-down and rebound monitoring may be appropriate, whether an alternate site remedy needs to be developed or whether the selected site closure goal under the SHS may need to be reconsidered. Although not expected, completion of this task will not be necessary if attainment of the SHS for all target constituents in soil and groundwater is achieved before expiration of the two-year contract.

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 7. As previously discussed, the duration of the Fixed-Price Agreement will be for a maximum of two years.[13] A sample Fixed-Price Agreement is included as

[13] Should the site be remediated to the satisfaction of the PADEP in less than two years, the contract would be terminated at that time.

Attachment 2[14] 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.

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 7. 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 – Installation of One Off-Property Groundwater Monitoring Well (contingency Task 1).
- Milestone B – Installation of One Off-Property Soil Vapor Monitoring Point and Soil Vapor Sampling (contingency Task 2). Note that the schedule assumes two (2) Milestone B payments.
- Milestone C – Final Design / Specification and Installation and Start-Up of a VEGE Remediation System (Task 3).
- Milestone D – Operation and Maintenance (O&M) / Monitoring of VEGE System for Two Years (Task 4). Note that the schedule assumes twenty-two (22) Milestone D payments.
- Milestone E – Continued Quarterly Groundwater Monitoring and Sampling (Task 5). Note that the schedule assumes eight (8) Milestone E payments.
- Milestone F – Preparation and Submittal of Quarterly RAPRs (Task 6). Note that the schedule assumes eight (8) Milestone F payments.
- Milestone G – Evaluation of VEGE System Performance (Task 7).

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

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	Installation of One Off-Property Groundwater Monitoring Well (A); Installation of One Off-Property Soil Vapor Monitoring Point and First Soil Vapor Sampling Event (B1)	A, B1
2	Second Soil Vapor Sampling Event (B2); Final Design / Specification and Installation and Start-Up of a VEGE Remediation System (C) [2]	B2, C
3	VEGE System O&M / System Monitoring (D1); Quarterly Groundwater Monitoring and Sampling (E1)	D1, E1
4	VEGE System O&M / System Monitoring (D2)	D2
5	VEGE System O&M / System Monitoring (D3)	D3
6	VEGE System O&M / System Monitoring (D4); Quarterly Groundwater Monitoring and Sampling (E2) ; Preparation and Submittal of Quarterly RAPR (F1)	D4, E2, F1
7	VEGE System O&M / System Monitoring (D5)	D5
8	VEGE System O&M / System Monitoring (D6)	D6
9	VEGE System O&M / System Monitoring (D7); Quarterly Groundwater Monitoring and Sampling (E3); Preparation and Submittal of Quarterly RAPR (F2)	D7, E3, F2
10	VEGE System O&M / System Monitoring (D8)	D8
11	VEGE System O&M / System Monitoring (D9)	D9
12	VEGE System O&M / System Monitoring (D10); Quarterly Groundwater Monitoring and Sampling (E4); Preparation and Submittal of Quarterly RAPR (F3)	D10, E4, F3
13	VEGE System O&M / System Monitoring (D11)	D11
14	VEGE System O&M / System Monitoring (D12)	D12
15	VEGE System O&M / System Monitoring (D13); Quarterly Groundwater Monitoring and Sampling (E5); Preparation and Submittal of Quarterly RAPR (F4)	D13, E5, F4
16	VEGE System O&M / System Monitoring (D14)	D14
17	VEGE System O&M / System Monitoring (D15)	D15
18	VEGE System O&M / System Monitoring (D16); Quarterly Groundwater Monitoring and Sampling (E6); Preparation and Submittal of Quarterly RAPR (F5)	D16, E6, F5
19	VEGE System O&M / System Monitoring (D17)	D17
20	VEGE System O&M / System Monitoring (D18)	D18
21	VEGE System O&M / System Monitoring (D19); Quarterly Groundwater Monitoring and Sampling (E7); Preparation and Submittal of Quarterly RAPR	D19, E7, F6

Estimated Milestone Timing (Month After Contract Award)	SOW Activities Anticipated / Completed for that Month	Milestone(s)[1]
	(F6)	
22	VEGE System O&M / System Monitoring (D20)	D20
23	VEGE System O&M / System Monitoring (D21); VEGE System Performance Evaluation (G) [3]	D21, G
24	VEGE System O&M / System Monitoring (D22); Quarterly Groundwater Monitoring and Sampling (E8); Preparation and Submittal of Quarterly RAPR (F7)	D22, E8, F7
25	Preparation and Submittal of Quarterly RAPR (F8)	F8

1. Each bidder should modify this sample Milestone Completion / Payment Schedule for Tasks 1 through 7 to reflect its proposed task schedule, as long as the proposed schedule meets the deliverable deadlines specified in Section 3 of this RFB.
2. Start-up of the VEGE remediation system must occur on or before September 30, 2011.
3. The VEGE system performance evaluation must be completed and the report submitted to ICFI no later than 60 days before the 2-year contract expires.

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.
- 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 there were or were not circumstances consistent with the cancellation provision of a signed contractual agreement, has your firm ever terminated work under a fixed-price or pay-for-performance contract before attaining all of the project objectives and milestones? If yes, please list and explain the circumstances of each such occurrence.

- A complete firm fixed-price cost bid for Tasks 1 through 7 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 7.

6. MANDATORY PRE-BID SITE VISIT

On **June 10, 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 **11:00 AM**. 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.**

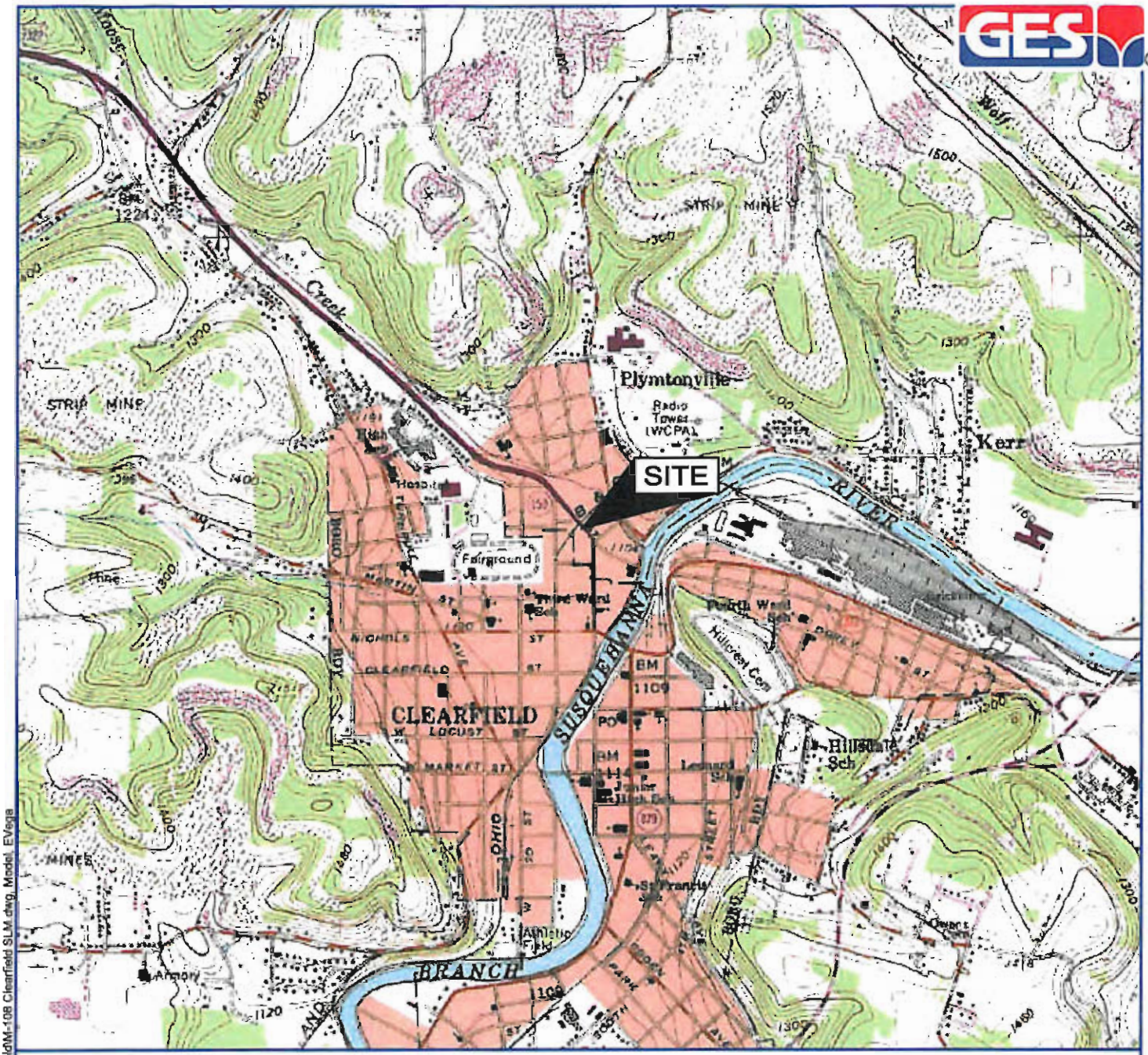
Questions will be entertained as part of the pre-bid site tour and every attempt will be made to answer questions at that time. However, all questions and the responses provided during the site visit will also be

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.[15] 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."

[15] 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

Site Location Map and Site Plan

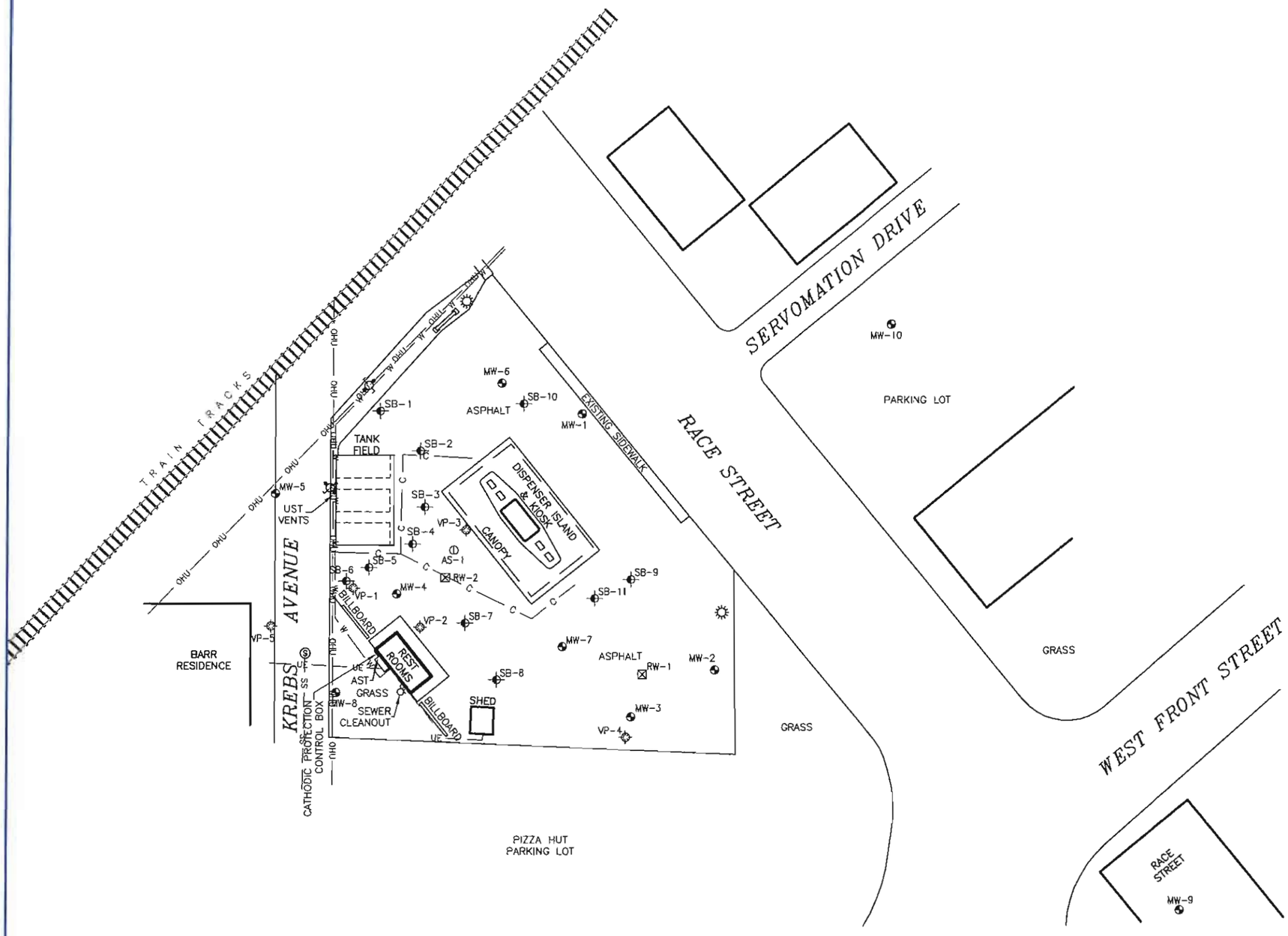


SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLE 1981
CLEARFIELD, PENNSYLVANIA
CONTOUR INTERVAL = 20'

QUADRANGLE LOCATION

DRAFTED BY: E.V. (N.J.)	SITE LOCATION MAP
CHECKED BY:	UNITED REFINING OF PENNSYLVANIA KWIK FILL STATION M-108 1052 RACE STREET CLEARFIELD, PENNSYLVANIA
REVIEWED BY:	Groundwater & Environmental Services, Inc. 6 SHERATON DRIVE, SUITE 2, ALTOONA, PA 16601
NORTH	SCALE IN FEET: 0 – 2000 / DATE: 3-22-10 / FIGURE: 1

M:\Graphics\2400-Altoona\UPA (United Refining)\M-108 Clearfield\M-108 Clearfield SLM dwg, Model, EVega



LEGEND

- SEWER MANWAY
- LIGHT POLE
- POWER TRANSMISSION POLE
- DISPENSER ISLAND
- AST — ABOVE GROUND STORAGE TANK
- UNDERGROUND STORAGE TANK
- MONITORING WELL
- RECOVERY WELL
- VAPOR POINT
- AIR SPARGE WELL
- SOIL BORING
- SS — UNDERGROUND SANITARY SEWER LINE
- UE — UNDERGROUND ELECTRIC LINE
- W — UNDERGROUND POTABLE WATER LINE
- C — UNDERGROUND CATHODIC PROTECTION
- OHU — OVERHEAD UTILITIES

SOURCE:

AQUATERRA TECHNOLOGIES, INC.
DECEMBER 18, 2009.

DRAFTED BY: E.V. (N.J.)	SITE MAP
CHECKED BY:	UNITED REFINING OF PENNSYLVANIA KWIK FILL STATION M-108 1052 RACE STREET CLEARFIELD, PENNSYLVANIA
REVIEWED BY:	Groundwater & Environmental Services, Inc. 6 SHERATON DRIVE, SUITE 2, ALTOONA, PA 16601
NORTH	SCALE IN FEET: 0 — 40 / DATE: 1-21-11 / FIGURE: 2

M:\Graphics\2400-Altoona\UPA (United Refining)\M-108 Clearfield\M-108 Clearfield SM.dwg, B-40, EVega, 1:1

ATTACHMENT 1

Relevant Project Documents

Filename:	**Document:**
SCR-RAP.pdf	February 2, 2011 SCR / RAP
SCR-RAPAppLet.pdf	February 24, 2011 PADEP SCR / RAP approval letter
New Off-Property Well.pdf	Access Agreement (not executed) and proposed well location map / construction detail for new well MW-11
MW-VP LOCS.pdf	Aerial photograph depicting proposed locations for new off-property monitoring well MW-11 and soil vapor monitoring point VP-6.
2ndQtr11GW Data	Most recent April 2011 groundwater analytical results
CMA_WRS.pdf	Clearfield Municipal Authority rate sheet related to the remediation system groundwater discharge.
FeasTestAna.pdf	Effluent groundwater analyses from remedial feasibility testing (inorganics and organics).

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.)

ATTACHMENT 3

Standardized Bid Format