

COMPETITIVE BID SOLICITATION FOR COMPLETION OF SITE CHARACTERIZATION ACTIVITIES

OTTO'S SERVICE STATION

**2001 MACDADE BOULEVARD, HOLMES, RIDLEY TOWNSHIP, DELAWARE
COUNTY, PENNSYLVANIA**

PADEP FACILITY ID #23-25941 -- PAUSTIF CLAIM # 2010-0104(F)

January 13, 2011

This Request for Bid (RFB) Solicitation is to prepare and submit a **Fixed Price Competitive Bid** to complete a **Site Characterization** for the subject site.

In August of 2010, during the course of closure by excavation and removal of the underground storage tank (UST) system, petroleum contaminated soils and groundwater were discovered at the subject property, resulting in the removal of 232.02 tons of impacted soil. Post-excavation soil sampling, along with sampling of water encountered in the tank excavation, identified the presence petroleum Constituents of Concern (COCs) at concentrations in excess of both the Residential Statewide Health Standard (RSHS) and the Non-Residential Statewide Health Standard (NRSHS).

The Solicitor has an open claim (Claim # 2010-0104(F) with the Pennsylvania Underground Storage Tank Indemnification Fund (PaUSTIF or "Fund"), and the work outlined in this RFB will be completed under this aforementioned claim. Reimbursement of Solicitor-approved reasonable, necessary and appropriate costs up to claim limits for the work described in this RFB will be provided by PaUSTIF and the Solicitor.

The work to be completed under this RFB will generally include the following components (additional details are provided later within this solicitation):

1. Component I activities including: records reviews, interviews, documentation of release and site history, site reconnaissance, etc;
2. Component II Activities including: installing, surveying, gauging and sampling wells, aquifer testing, etc; and,
3. Component III preparing a Site Characterization Report (SCR) and remedial alternative evaluations for Solicitor to review prior to PaDEP submittal.¹

¹ For clarity, this RFB does not include the preparation or implementation of a Remedial Action Plan (RAP).

Fixed Price costs for individual tasks proposed by the bidder shall be based on the scope of work provided in the RFB. Expenses for individual tasks in excess of the quoted price for the individual tasks shall be the bidder's responsibility. The scope and budget for any identified out of scope activities must be pre-approved to be eligible for payment. Any costs associated with deviations from the scope that did not receive prior approval by PaUSTIF or its representatives will not be reimbursed.

Should your company elect to respond to this RFB Solicitation, one (1) hard copy and one (1) electronic copy on a CD of the signed bid package must be provided to the identified ICFI Representative. **The outside of the envelope must be clearly labeled BID – CLAIM #2010-0104(F). The signed response (both electronic and hard copy) to this RFB must be provided to the ICFI Representative no later than close of business (5:00 PM EDST) on FEBRUARY 24, 2011.**

On behalf of ICFI and PaUSTIF, the Technical Contact will assist the Solicitor in evaluating the bid, but the Solicitor will ultimately choose to negotiate the mutually agreeable contract. The Bid evaluation will consider, among other factors, total bid cost, unit costs, schedule, qualifications and contract terms and conditions (no priority or relative weighting is implied by the order of these factors). The Solicitor anticipates informing the bidder with an approval to proceed within nine (9) weeks of the bid response deadline.

A. SOLICITOR AND TECHNICAL CONTACT INFORMATION

<u>Solicitor</u>	<u>ICFI Representative</u>	<u>Technical Contact</u>
Mrs. Mary Aldorasi 1129 Muhlenberg Avenue Swathmore, PA 19081	Ms. Bethany Smith ICF International 4000 Vine Street Middletown, PA 17057-3565	Mr. Eric J. Slavin, MS, CPGS, RPG President/Senior Consultant Earth Resource Associates, Inc. 544 Hemlock Lane Lebanon, PA 17042-6094 Email: Eric.J.Slavin@gmail.com

NOTE: Submitted bid responses are subject to Pennsylvania's Right-to Know Law. All questions regarding this RFB Solicitation and the subject site conditions must be directed via email to the Technical Contact with the understanding that all questions and answers will be provided to all bidders. The email subject line must be "Otto's Service Station 2010-0104(F) – RFB QUESTION." **Bidders must neither contact nor discuss this RFB Solicitation with the Solicitor, PaUSTIF, PaDEP, or ICFI unless approved by the Technical Contact.** This RFB Solicitation may be discussed with subcontractors/vendors to the extent required for preparing the bid response. **All questions must be received by close of business on February 10, 2011.** All questions will be answered by the Technical Contact by no later than February 17, 2011. **There will be no site visits allowed except as provided in Section F.**

B. SITE LOCATION / BACKGROUND

Site Name/Address

Otto's Service Station
2001 MacDade Boulevard
Holmes, PA 19043

Municipality /County/ Latitude and Longitude

Ridley Township
Delaware County

39° 53' 48.92" north latitude
-75° 18' 46.42" west longitude

Site Use and Description:

The site is a former retail gasoline station/auto repair facility known as Otto's Service Station and is located at 2001 MacDade Boulevard, Holmes Pennsylvania (Figures 1 and 2). The property consists of a triangular shaped piece of land which is bordered to the north by Spruce Street, to the south by MacDade Boulevard and to the east by Amosland Road. The claimant has owned the property since January 28, 1955, and after which it was developed as an auto repair and service station facility. Fuel was stored at and dispensed from the facility until December 17, 1998, when the tanks were taken out of service, but not formerly closed. Currently, the site is used as a Budget Truck Rental facility.

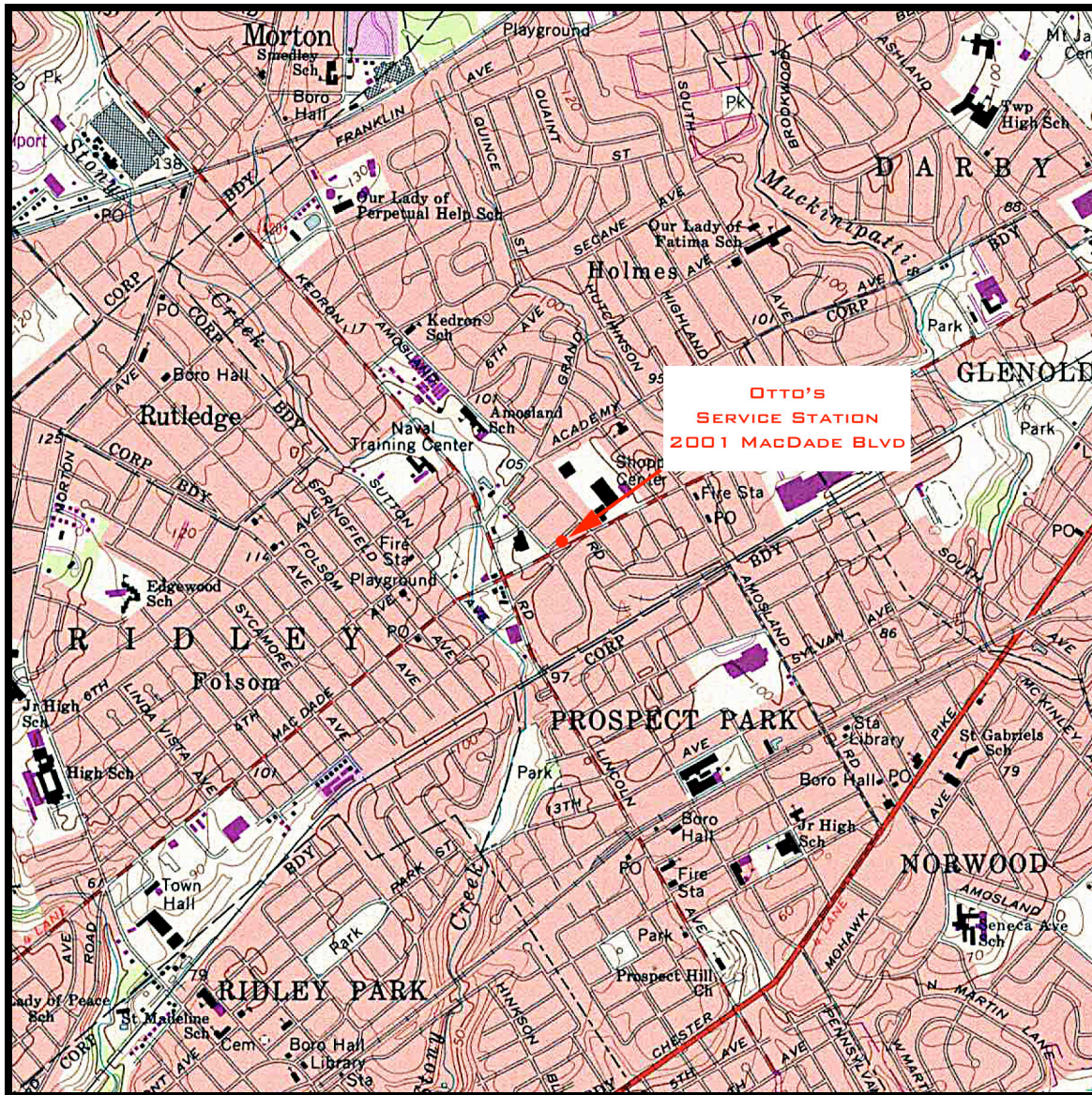
Five underground storage tanks (USTs) were present at the site until August of 2010 when they were closed by excavation and removal. Those USTs included 3 gasoline USTs, each of which had a 3,000-gallon capacity, a 550-gallon used motor oil UST and a 500-gallon kerosene UST, which may have been converted to a heating oil tank at some point prior to its removal. No other USTs are known to be associated, nor to have been associated, with the property.

Nature of Confirmed Release:

On August 10 and 11, 2010 the 5 on-site USTs, their associated piping, dispenser island and dispensers were permanently closed by removal by YCP, Inc. under the supervision of AECOM, both of whom were contracted to PaDEP through funding from the Federal surplus program.

As shown on Figure 3, the 3 gasoline USTs (Tanks 001, 002 and 003) were located in a common excavation situated to the west of the station building, and each UST had been placed on an individual 2 foot wide by 18 foot long concrete pads when installed. The used motor oil and kerosene USTs (Tanks 004 and 005), were located in a common excavation at the rear of the station building, along Spruce Street.

FIGURE 1
SITE LOCATION MAP



Location Map Taken From USGS 7.5 Minute Topographic Series Lansdowne, PA 7.5 Minute Quadrangle (1994)

Scale 1 : 24,000

North

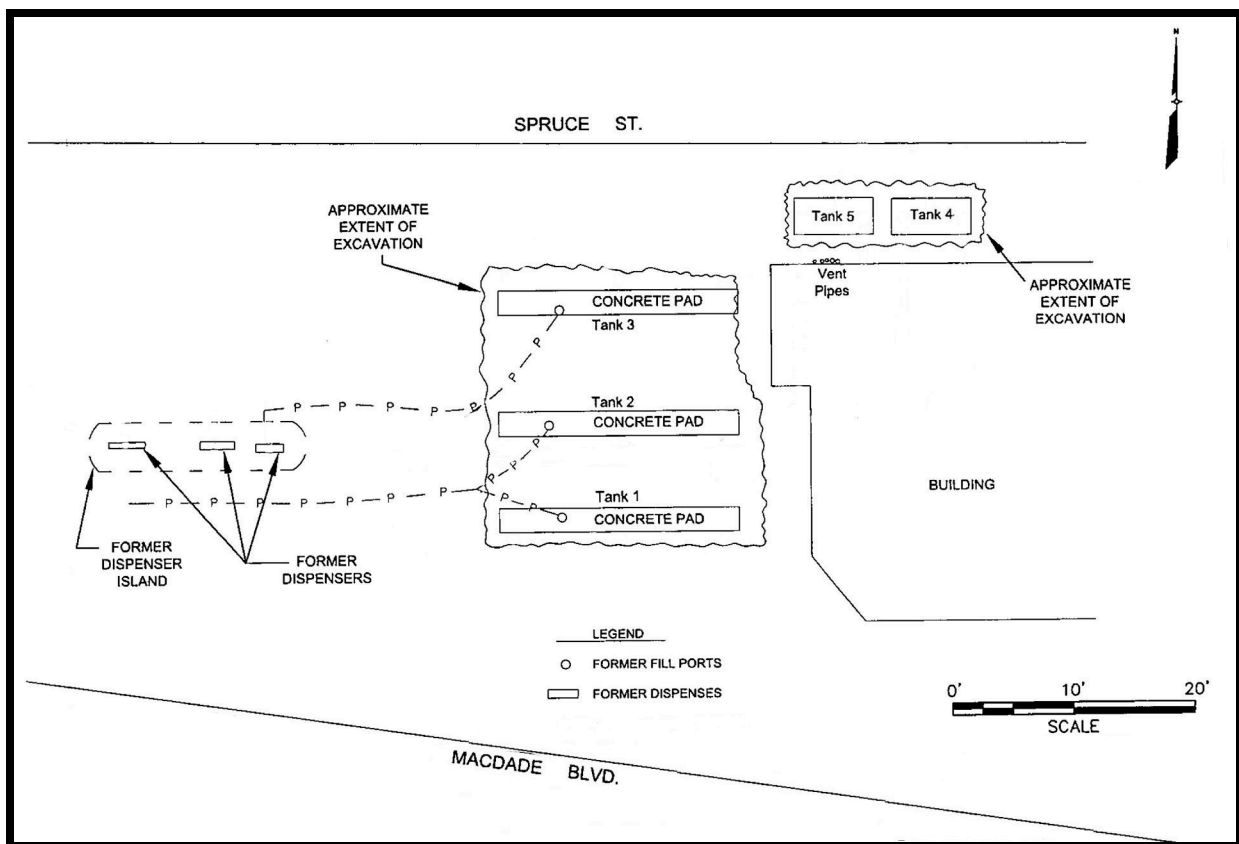


FIGURE 2
RECENT AERIAL PHOTOGRAPH OF SITE AREA



AERIAL PHOTOGRAPHY TAKEN FROM GOOGLE EARTH

FIGURE 3
FORMER UST SYSTEM LOCATIONS



BASE MAP TAKEN FROM AECOM UST CLOSURE REPORT DRAWING

During the removal process for Tanks 001, 002 and 003 petroleum impacted soils were observed within the tank excavations. Impacted soils, which displayed discoloration, hydrocarbon odors and elevated PID readings were removed from the excavation to a depth of approximately 10 feet below grade and subsequently were disposed of at an approved off-site facility. Following confirmation soil samples were taken, but because of the concrete pads, soil samples could not be collected from directly beneath the USTs. With the approval of PaDEP, confirmatory soil samples were collected adjacent to each of the concrete tank pads.

In addition to the soil samples that were collected from the gasoline UST excavation, 2 samples of water that was present in that excavation were collected.

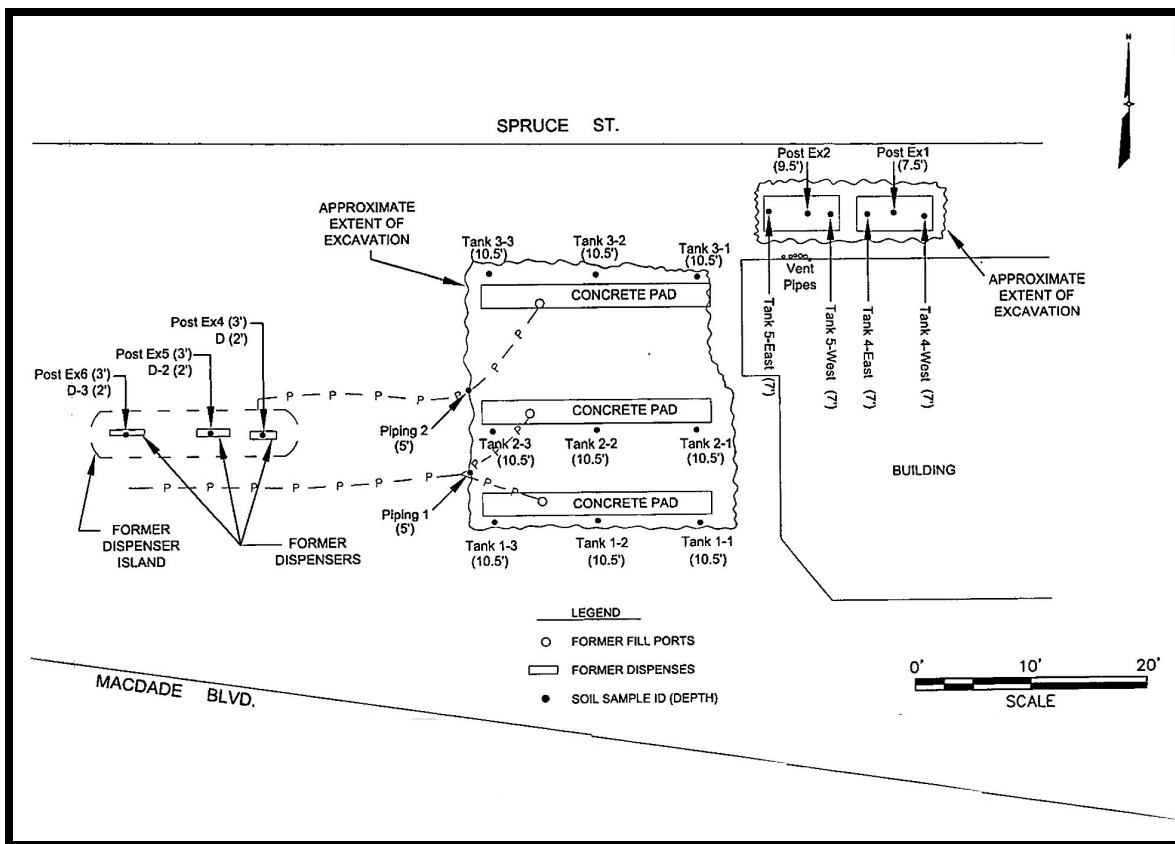
All soil and water samples from the gasoline UST excavation were analyzed for the PaDEP Short List of Unleaded and Leaded Gasoline Constituents.

Following the removal of the former gasoline USTs, the associated piping runs and dispenser island were excavated. While no evidence of contamination was observed to be associated with the piping runs, extensive contamination was observed beneath the dispenser island. Soil excavated from the dispenser island had a greenish gray staining, strong petroleum odors and elevated PID readings. Because of the visual and olfactory contamination observed beneath the dispenser island the soils there were over excavated to the maximum allowable 3-foot depth. Confirmatory soil sampling of the piping runs and dispenser island was conducted, with the samples being analyzed for the PaDEP Short List of Unleaded and Leaded Gasoline Constituents.

Tank 4, the used motor oil tank, was observed to be in good condition when excavated; however, Tank 5, the kerosene tank, was observed to have significant resting, pitting and several holes. Soils removed during the excavation of both tanks were visibly impacted and reported to have a greenish gray staining. Two confirmatory soil samples were collected from beneath each of the tanks. Because the soils appear to be impacted, an additional foot of soil was removed from beneath Tank 4 and a post-excavation soil sample was collected. Due to visual observations and elevated PID readings, an additional 2 feet of soil was removed from beneath Tank 5 after which 2 post-excavation soil samples were collected from beneath that tank. Soil samples collected from beneath Tanks 4 and 5 were analyzed for the PaDEP Short List for Used Motor Oil and Kerosene.

Locations of the confirmatory samplings are shown by Figure 4, and summary analytic results are provided in the following tables.

FIGURE 4
SOIL AND EXCAVATION PIT WATER SAMPLING LOCATIONS



BASE MAP TAKEN FROM AECOM UST CLOSURE REPORT DRAWING

TABLE 1

**Summary Results From Gasoline UST Excavation Soil Sampling
All Results Reported as mg/kg**

	Benzene	Toluene	Ethyl- benzene	Total Xylene	Cumene	Naph- thalene	MTBE	1,2,4- TMB	1,3,5- TMB
Tank 1-1 (10.5 feet bgs)	0.230	0.008	0.050	0.022	0.007	0.017	0.500	0.001	0.002
Tank 1-2 (10.5 feet bgs)	0.430	0.021	0.270	0.059	0.025	0.021	0.710	0.003	0.003
Tank 1-3 (10.5 feet bgs)	0.280	0.011	0.220	0.052	0.008	0.067	0.560	<0.002	<0.002
Tank 2-1 (10.5 feet bgs)	0.009	<0.001	<0.001	0.003	0.001	<0.001	0.150	<0.001	<0.001
Tank 2-2 (10.5 feet bgs)	0.036	0.002	0.002	0.005	<0.001	<0.001	0.043	<0.001	<0.001
Tank 2-3 (10.5 feet bgs)	0.048	0.002	<0.001	0.005	0.002	<0.001	2.800	<0.001	<0.001
Tank 3-1 (10.5 feet bgs)	0.120	0.720	0.014	0.003	0.009	0.017	0.910	0.041	0.029
Tank 3-2 (10.5 feet bgs)	0.087	0.180	0.035	0.004	0.004	0.007	1.000	0.004	0.006
Tank 3-3 (10.5 feet bgs)	0.078	0.005	0.100	0.014	0.009	0.029	0.630	0.002	0.002
Residential Used Aquifer MSC (Saturated Soil)	0.5	100	70	1,000	84	10	2	1.6	1.6

TABLE 2

**Summary Results From Gasoline UST Excavation Pit Water Sampling
All Results Reported as µg/l**

	Benzene	Toluene	Ethyl- benzene	Total Xylene	Cumene	Naph- thalene	MTBE	1,2,4- TMB	1,3,5- TMB
Water 1	52	6	77	66	18	26	1,200	71	25
Water 2	36	14	46	120	10	24	1,500	76	22
Residential Used Aquifer MSC	5	1,000	700	10,000	840	100	20	15	13
Non-Residential Used Aquifer MSC	5	1,000	700	10,000	3,500	100	20	62	53

TABLE 3

**Summary Results From Gasoline Piping Runs
and Dispenser Island Excavation Soil Sampling
All Results Reported as mg/kg**

	Benzene	Toluene	Ethyl- benzene	Total Xylene	Cumene	Naph- thalene	MTBE	1,2,4- TMB	1,3,5- TMB
Piping 1	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	<0.001	<0.001
Piping 2	0.016	<0.001	0.057	0.022	0.011	0.017	0.008	0.041	0.029
D1 (2 feet bgs)	0.140	1.9	15	83	2.2	7.7	0.026	54	14
Post Ex 4 (3 feet bgs)	0.440	36	43	250	6.4	14	0.120	140	37
D2 (2 feet bgs)	<0.027	0.360	5.7	31	1.2	2.7	<0.027	18	4.8
Post Ex 5 (3 feet bgs)	<0.033	1.0	7.6	48	1.4	3.8	<0.033	27	7
D3 (2 feet bgs)	<0.030	<0.059	2.2	14	1.6	3.6	<0.030	37	11
Post Ex 6 (3 feet bgs)	<0.028	1.5	9.6	66	1.9	6.1	<0.028	36	10
Residential Used Aquifer Soil to GW MSC	0.5	100	70	1,000	600	25	2	8.4	2.3
Non-Residential Used Aquifer Soil to GW MSC	0.5	100	70	1,000	2,500	25	2	35	9.3

TABLE 4 (Part 1 of 2)

Summary Results From Used Motor Oil and Kerosene Tank Excavation Soil Sampling
All Results Reported as mg/kg

	Benzene	Toluene	Ethyl- benzene	Cumene	Naph- thalene	MTBE	1,2,4- TMB	1,3,5- TMB
Tank 4 East (7 feet bgs)	<0.020	<0.041	<0.041	<0.041	<0.041	<0.020	<0.041	<0.041
Tank 4 West (7 feet bgs)	<0.020	<0.041	<0.041	<0.041	<0.041	<0.020	<0.041	<0.041
Post Ex 1 (9.5 feet bgs)	<0.025	<0.050	<0.050	<0.050	<0.050	<0.025	<0.050	<0.050
Tank 5 East (7 feet bgs)	<0.029	<0.058	<0.058	<0.058	0.079	<0.029	<0.058	<0.058
Tank 5 West (7 feet bgs)	<0.028	<0.056	<0.056	<0.056	<0.056	<0.028	<0.056	<0.056
Post Ex 4 (7.5 feet bgs)	<0.024	<0.047	<0.047	<0.047	<0.047	<0.024	<0.047	<0.047
Residential Used Aquifer Soil to GW MSC	0.5	100	70	1,000	600	25	2	8.4
Non-Residential Used Aquifer Soil to GW MSC	0.5	100	70	1,000	2,500	25	2	35

TABLE 4 (Part 2 of 2)

Summary Results From Used Motor Oil and Kerosene Tank Excavation Soil Sampling
All Results Reported as mg/kg

	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Chrysene	Indo (1,2,3-cd) pyrene	Pyrene
Tank 4 East (7 feet bgs)	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038
Tank 4 West (7 feet bgs)	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038
Post Ex 1 (9.5 feet bgs)	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Tank 5 East (7 feet bgs)	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044
Tank 5 West (7 feet bgs)	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.160
Post Ex 2 (7.5 feet bgs)	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038
Residential Used Aquifer Soil to GW MSC	25	46	40	180	230	2,200	2,200
Non-Residential Used Aquifer Soil to GW MSC	320	46	170	180	230	28,000	2,200

Constituents of Concern:

The Constituents of Concern (COC) for the Otto's Service Station Site Characterization are the PaDEP Unleaded Gasoline constituents benzene, toluene, ethylbenzene, xylenes, isopropylbenzene, MTBE, naphthalene 1,2,4-trimethylbenzene and 1,3,5- trimethylbenzene.

C. OBJECTIVES AND SCOPE OF WORK

This RFB seeks competitive bids from qualified contractors to perform the site characterization activities scoped below to investigate a confirmed petroleum release at the subject site, and to submit a Site Characterization Report (SCR) to the PaDEP. Following completion this scope of work, a Remedial Action Plan (RAP) will be prepared; however, this RFB does not include the preparation or implementation of RAP. The following Scope of Work has been developed by the Technical Contact based on the §245.309 Regulations.

Work Task 1.0 Project Planning/Management:

Task 1.1 Records Review/Documentation - The successful bidder shall review and document the site history and details of the release via document inspection, interviews and related activities including:

- Reviewing Federal, State and local environmental and other databases for the subject property and adjacent properties, as well as searching for any environmental liens filed against the property;
- Reviewing the prior tank closure report, EDR Radius Search Report, Historic USGS Topographic Mapping and Historic Sanborn Mapping, copies of which are included in Attachment 1 of this RFB;
- Identifying potential concerns with impacts to public and private water supplies, buildings or structures, stormwater and sanitary sewers and other underground and/or overhead utilities;²
- Identifying potential off-site sources, if any, which may have contributed to the identified contamination.
- Identifying drinking water wells on or within a ½ mile radius of the subject site;
- Documenting of properties within a ½ mile radius of the subject site being connected to public water supplies; and,
- Reviewing the suspected location and volume of the release and affected media (soil, groundwater, surface water and/or vapor).

² Scope of work includes the notification requirements specified in 25 PA Code §245.305

The successful bidder shall document the property historical records review and interviews by preparing a written detailed summary of research findings including site and vicinity general setting, current land use and planned land use on the property, descriptions of existing and proposed structures, utilities, groundwater wells, availability and connections to public water supplies, other improvements on the site and current and past uses of adjoining properties. A written summary of findings shall be prepared and submitted to the Technical Contact and the Solicitor and shall include a detailed discussion of historical underground storage tanks (USTs), any above ground storage tanks (ASTs), pump islands, canopies and underground product conveyance piping systems including diagrams and any other fuel handling, storage or distribution facilities and any potential off-site sources which may have contributed to the contamination. Documentation of this initial work phase shall include maps, sketches, photos, interview sheets, or other relevant documentation supporting the text.

Task 1.2 Preparation of Project Guidance Documents - Documents to be prepared include a Site Specific Health And Safety Plan, a Field Sampling And Analysis Plan, a Quality Assurance/Quality Control Plan, a Pennsylvania One Call Notification Plan, a PennDOT Access/Notification Plan and/or other plans that may be required by regulations or that may be necessary and appropriate.³ Where applicable, the pertinent project guidance documents should be prepared in accordance with 25 PA CODE § 245.

Task 1.3 Project Management – The successful bidder shall complete necessary, reasonable and appropriate project management activities for the duration of the contract period consistent with release investigation projects. Such activities would be expected to include client communications/updates and meetings, permitting, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling and other activities.

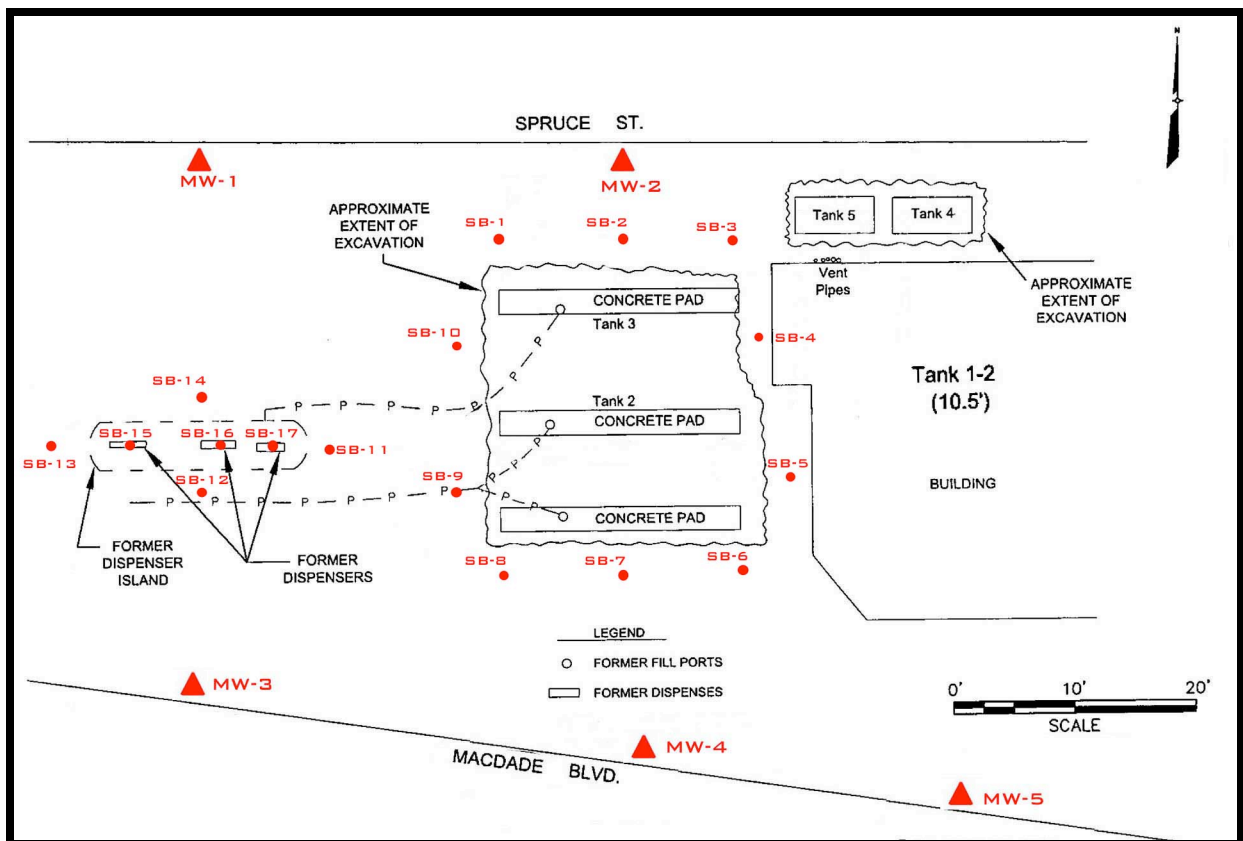
Work Task 2.0 – Site Characterization Activities:

Task 2.1 Soil Borings and Monitoring Wells - In order to characterize potentially impacted soil and the dissolved phase plume in the underlying aquifer and to obtain the data necessary to evaluate exposure pathways for the risk assessment, a total of seventeen (17) soil borings (SB-1 through SB-17) and five (5) monitoring wells (MW-1 through MW-5) shall be installed at the approximate locations identified on the following drawing (Figure 5).

³ In accordance with 25 PA Code 245.309. Successful bidder shall be responsible for contacting Pennsylvania One Call prior to any invasive field work. In addition, successful bidder shall be responsible for obtaining all necessary permits for monitoring wells drilled in PennDOT or municipal rights-of-ways or cartways.

FIGURE 5

APPROXIMATE LOCATIONS OF PROPOSED MONITORING WELLS AND
SOIL BORINGS



BASE MAP TAKEN FROM AECOM UST CLOSURE REPORT DRAWING

As part of the installation of the soil borings and monitoring wells, the selected consultant shall consider the following:

- a. As a minimum, all soil boring and monitoring well installation work shall be directed and overseen by a geologist under the direct supervision of a Pennsylvania Registered Professional Geologist, in order to assure complete and accurate identification of the subsurface materials encountered and to assure proper construction of the monitoring wells;
- b. The overseeing geologist shall conduct continuous geological characterization and screening of soil (boring logs) from borings using a photoionization detector (PID). Continuous geological logs shall be prepared by a Pennsylvania Registered Professional Geologist for each boring using standard and consistent classification system procedures (e.g., Modified Burmister or USCS);
- c. The overseeing geologist shall collect discrete soil samples from a depth coincident with the top of the water table. One additional sample may also be collected at any depth interval with a PID response significantly greater than the typical reading for that boring and that is greater than 50 ppm. Assume for the purpose of this RFB, that 2 soil samples will be collected in total from each soil boring and monitoring well installation. Soil samples will be collected in laboratory-provided methanol preserved containers in accordance with EPA Method 5035, packed on ice and transported to an independent NELAC or PA Act 252 certified testing laboratory for analysis of the COCs identified by PaDEP's Revised Short List of Petroleum Products for unleaded gasoline (i.e.– benzene, toluene, ethylbenzene, xylenes, isopropylbenzene, MTBE, naphthalene 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene) via EPA Method 5035/8260B;
- d. All Soil Borings shall be completed using Direct Push techniques with continuous sampling of the subsurface materials encountered. All soil borings are to be completed to a depth of 20 feet below grade or refusal, whichever is less. Bidders are instructed to assume 20 foot completion depths for the purposes of this bid.
- e. Upon completion, each Soil Boring shall be backfilled with bentonite chips, which are to then be hydrated to effectively seal the boring. Blacktop (cold patch) or concrete shall be used to repair the ground surface at each boring location.
- f. Monitoring Wells shall be installed using Hollow-Stem Auger techniques. Monitoring Wells shall be constructed of minimum 2-inch internal diameter threaded PVC well screens (appropriately sized for the underlying formation materials) and riser pipe. Screen and riser pipe centralizers **SHALL** be used to assure that the sand packs are evenly distributed around the well screens and sand packs **SHALL** be placed as the augers are being withdrawn to assure that a minimum of 1-foot of sand remains within the auger and that the screen is not exposed to the overburden materials during construction.

- g. All wells shall be installed to a depth of 20-feet below grade, or the top of competent bedrock, whichever is less;
- h. All wells shall be completed with 15-feet of screen;
- i. If competent bedrock is encountered at a depth of less than 20 feet below grade, such that 15 feet of well screen cannot be installed, wells shall be constructed such that the screen extends from the bottom of the boring to a point 5 feet below grade.
- j. Each monitoring well riser pipe shall be fitted with a pad locked compression cap, and shall be completed at the surface with a water tight securable manhole, set in concrete flush with the ground surface.
- k. All padlocks are to be keyed alike, and 1 set of keys is to be provided to the Technical Contact upon completion of the well installations.

All wells shall be completed following industry standard techniques and in a manner consistent with the criteria established by the Pennsylvania Department of Environmental Protection's Groundwater Monitoring Guidance Manual dated December 1, 2001 (Document # 383-3000-001).

Bidders shall, within their bid packages, provide written detail of their proposed drilling and construction techniques for all wells and borings.

Soil cuttings and liquids generated during the drilling activities shall be containerized and disposed of offsite in a manner consistent with the protocols set forth by the PaDEP. Disposal of soil cuttings and liquids shall be arranged through a certified waste disposal subcontractor.

Soil cuttings and liquids generated during the drilling activities may be temporarily stored on-site, but shall be removed from the subject site in a timely manner. Temporary on-site storage shall not exceed 90-days from the date of initiation of well drilling.

The newly installed monitoring wells shall be properly developed to promote adequate hydraulic connection between the aquifer and the well. Well development shall be completed via a combination of mechanical surging and pumping, and shall be continued until such time as the well is reasonably free of sediment. For the purpose of this RFB it should be assumed that a minimum of 12 well volumes shall be removed in order to develop each well.

Groundwater and sediment removed from the wells during development shall be containerized and disposed of offsite in a manner consistent with the protocols set forth by the PaDEP. Disposal of extracted groundwater shall be arranged through a certified waste disposal subcontractor.

The groundwater and sediment derived from development may be temporarily stored on-site, but shall be removed from the subject site in a timely manner. Temporary on-site storage shall not exceed 90-days from the date of initiation of well development.

Subsequent to installing the groundwater monitoring wells they shall be surveyed by a Pennsylvania licensed land surveyor to identify locations on the scaled base site plan and to determine top of casing elevations (elevation above mean sea level). Survey shall also include the property line and all principal site features (e.g., buildings, dispensers, grass islands, property boundaries, paved areas, gravel areas, conveyance lines, etc). Base map shall also show uses of adjoining properties and shall include the locations and elevations of the tops of casing of the monitoring wells.

Task 2.2 Groundwater Sampling – For costing purposes, bidders shall assume the completion of 2 groundwater monitoring events. The first sampling event shall be conducted no sooner than 14 days following the completion of the well installations and development. The second sampling event shall be completed no sooner than 30 days following the first sampling event.

Prior to the collection of any groundwater samples, the successful bidder shall collect and record static water levels measurements for all wells.

Following the collection of static water levels from all wells, the successful bidder shall purge and sample the wells.

Low-flow groundwater purging/sampling techniques consistent with EPA's April 1996 Low-Flow (Minimal Drawdown) Ground -Water Sampling Procedures (EPA/540/S-95/504) shall be used to purge and collect groundwater samples from the monitoring wells unless this method is not viable for documented technical reasons. Full groundwater sampling records as identified by the low-flow guidance document shall be completed and maintained for each sampling event.

All groundwater samples shall be placed in new laboratory pre-cleaned 40 milliliter (ml) glass VOC vials, acid preserved with hydrochloric acid and packed on ice and transported to an independent NELAC or PA Act 252 certified testing laboratory for analysis of the COCs identified by PaDEP's Revised Short List of Petroleum Products for Unleaded Gasoline (i.e.– benzene, toluene, ethylbenzene, xylenes, isopropylbenzene, MTBE, naphthalene 1,2,4-trimethylbenzene and 1,3,5- trimethylbenzene) via EPA Method 5030B/8260B.

During each sampling event, 1 trip blank (provided by laboratory) and 1 blind duplicate QA/QC groundwater sample shall be collected and analyzed for the COCs.

Full chain-of-custody records shall be completed and maintained for each sampling event.

If separate-phase liquids are encountered during the groundwater sampling, a sample of the separate-phase liquid shall be collected and properly containerized / stored and the Technical Contact shall be notified. PaUSTIF may request (under a separate work scope) that the separate-phase liquid sample be analyzed for forensic properties.

Bidders shall, within their bid packages, provide written detail of their proposed purging, sample collection and sample handling techniques and methods.

Task 2.3 Summary Soil Sampling Reporting - Upon completion of soil boring and monitoring well installations, well development and soil sampling, the successful bidder shall review and analyze the results of the well installations and the reports of the laboratory testings and shall compile and submit a Summary Soil Sampling Report (SSSR). **The SSR shall include copies of the completed well logs for each monitoring well, copies of the laboratory reports of the soil sample analyses, a summary table of soil analytic results, copies of the well development records and field notes of each sampling event.** One copy of each SSSR shall be provided to PaDEP, 1 copy of each SSSR shall be provided to the Solicitor and 1 additional copy of each SSSR shall be provided to the ICFI Representative. **SSSRs are to be submitted to the parties identified above within 30-days of the successful bidder's receipt of the laboratory results of the soil samplings.**

Task 2.4 Summary Groundwater Sampling Reporting - Upon completion of each groundwater sampling event, the successful bidder shall review and analyze the results of the static water level measurements and the reports of the laboratory testings and shall compile and submit a Summary Groundwater Sampling Report (SGSR). **Each SGWSR shall include copies of the static water level elevations collected from each well, a contour map of the static water levels, copies of the laboratory reports of the sample analyses, a summary table of analytic results, including all prior sampling results, isocon mapping of COCs found above the RSHS and copies of the low-flow purging records and field notes of each sampling event.** One copy of each SGWSR shall be provided to PaDEP, 1 copy of each SGWSR shall be provided to the Solicitor and 1 additional copy of each SGWSR shall be provided to the ICFI Representative. **SGWSRs are to be submitted to the parties identified above within 30-days of the successful bidder's receipt of the laboratory results of the sampling event.**

Task 2.5 Aquifer Testing – Slug tests shall be completed within a minimum of 5 of the monitoring wells to identify the horizontal and vertical spatial variability in the aquifer characteristics⁴.

Rising head tests shall be completed at each tested well. An instantaneous displacement of the water level in each well shall be accomplished by quickly removing a known volume of water or a pre-installed solid “slug” of known volume. Measurements shall be taken as soon as

⁴ Slug test work shall be completed as per accepted industry standards and in accordance with the American Society for Testing and Materials (ASTM) standards as defined in ASTM D4104-96 (2004), ASTM D5785-95 (2000), ASTM D5881-95 (2000) and ASTM D5912-96 (2004).

possible following the extraction of the “slug” until achievement of the initial static water level (within 10%) in the well recorded prior to its displacement. The water level response shall be measured using a pressure transducer and/or electronic data logger.

The evaluation of the rising head test data shall be performed according to the Bouwer and Rice method for completely or partially penetrating wells in unconfined or semi-confined aquifers.

Task 2.6 Fate and Transport Modeling - Fate and Transport Modeling shall be completed using the Quick Domenico two-dimensional analytical model to predict fate and transport of COCs exceeding the RSHS in groundwater beneath the subject site. Bidders may propose the use of additional fate and transport models to be used along with the Quick Domenico model, if appropriate.

Work Task 3.0 – Waste Management and Disposal:

The successful bidder shall 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 Scope of Work 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 all work tasks, as appropriate.

Bidders will be responsible for including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the SOW.

The successful bidder shall manage purge water from the on-site monitoring wells consistent with the guidelines set forth by PaDEP's Groundwater Monitoring Guidance Manual PaDEP Document # 383-3000-001.

Soil/rock cuttings and liquids generated during the drilling activities shall be disposed of offsite in a manner consistent with the protocols set forth by the PaDEP. Disposal of soil/rock cuttings shall be arranged through a certified waste disposal subcontractor.

In an effort to eliminate or minimize the need for change orders on a fixed price contract, all bidders shall include costs to dispose of all anticipated volumes of waste in their bid response. ICFI and PaUSTIF will not entertain any assumptions on the contract with regards to a volume of waste (i.e. Project costs assume that no more than one (1) ton of soil cuttings will require disposal after the installation of the additional monitoring wells). Bidders will be responsible for including costs in their bid response to cover the disposal of all potential waste related to the tasks included in the Scope of Work. Please estimate, and clearly identify in your bid, the volume of waste using your professional opinion, experience, and the data provided. Invoices

submitted to cover additional costs on waste generated as part of activities included under the fixed price contract for the subject site will not be paid.

Work Task 4.0 – Site Characterization Report:

Following the completion of the activities proposed in Work Tasks 1.0, 2.0 and 3.0, the successful bidder shall prepare a Site Characterization Report (SCR) for the subject site. The information gathered during the aforementioned tasks shall be incorporated into a comprehensive SCR that will be submitted to the PaDEP and will facilitate the objective to complete regulatory requirements governing the SCR and gain PaDEP approval for the report. Specifically, the report shall summarize the results of the recent investigations, the findings of the previous investigations, a comprehensive site history, identification of source(s), sensitive and ecological receptor information, risk assessment, geologic data, results and analysis of the aquifer testing, discussion on the completed remediation efforts, summary of the predictive modeling efforts completed, and a series of summary tables, appendices, and figures illustrating the information provided in the report.

The SCR shall be completed following the guidelines specified in Pennsylvania Code, Title 25, Chapter 245 and the Land Recycling Program (Act 2) Technical Guidance Manual for a Site Characterization Report. The successful bidder shall also present significant conclusions and make recommendations for any necessary future work at the subject site in the SCR. The SCR shall be appropriately signed and sealed by a licensed Pennsylvania Registered Professional Geologist.

Within 120 days of contract execution, a draft SCR and all AutoCAD maps / plans included in the report (e.g., site plan / base map, groundwater elevation maps, dissolved plume maps, soil contaminant distribution maps, etc.) and appendices (e.g., boring logs, tables, waste disposal documentation, aquifer testing and analysis, transducer survey results and analysis, and sensitive receptor information) shall be submitted electronically (in Adobe PDF format) to the Technical Contact and to the ICFI Representative. Additionally, a hard copy of the draft shall be submitted to the Solicitor and the Technical Contact for review / comment prior to finalizing the SCR. Once the successful bidder has addressed comments on the draft, the successful bidder shall finalize the SCR, which shall then be sealed by a Pennsylvania Registered Professional Geologist and issued to PaDEP, Technical Contact, the ICFI Representative and the Solicitor. All AutoCAD maps/plans included in the report (e.g., site plan/base map, groundwater elevation maps, dissolved plume maps, soil contaminant distribution maps, etc.) shall also be submitted electronically on CD to the Technical Contact and the ICFI Representative.⁵

Copies of the final SCR also shall be submitted electronically (in Adobe PDF format) to the Technical Contact and the ICFI Representative along with a hard copy being submitted to PaDEP and the Solicitor.

⁵ Figures and AutoCAD drawings are to be prepared on no larger than Ledger Sized (11" x 17") paper.

Each bidder should carefully review the existing site information provided in Attachment 1 to this RFB and seek out other appropriate sources of information to develop their fixed price cost quotation and schedule leading up to and including preparing the SCR. There is no prequalification process for bidding. Therefore, bids that demonstrate a command of existing site information and demonstrate an understanding of standard industry practices will be regarded as responsive to this solicitation.

Work Task 5.0 - Risk Assessment and Feasible Remedial Alternatives Analysis:

Task 5.1 Risk Assessment Evaluation – A risk assessment evaluation shall be completed consistent with the guidelines provided in the Act 2 Guidance Manual (applicable portions of Sections II.C.4 IV.G and IV.H). These sections provide general information on risk assessment; developing site appropriate standards; discuss potential for pathway elimination; and guidance on site-specific human health assessment procedures. This guidance should be followed to conduct a risk assessment. Results of the risk assessment should be taken into consideration when developing a feasible remedial strategy and determining which standards would be appropriate for the Site. Results of the evaluation shall be discussed in the Risk Assessment and Feasible Remedial Alternatives Analysis Report.

Task 5.2 – Remedial Alternatives Analysis A Remedial Alternatives Analysis shall be completed for the subject site to compare cleanup alternatives and evaluate which remedial action is most appropriate for the subject site. The evaluation should specifically focus on eight (8) key considerations including cost-effectiveness, proven performance, public and environment protectiveness, regulatory compliance, reliability, practical implementation, health & safety and effects on public health and the environment. The findings of the Remedial Alternatives Analysis shall be summarized and presented as part of the Risk Assessment and Feasible Remedial Alternatives Analysis Report. Information/data generated during the interim remedial activities conducted at the subject site shall be taken into consideration.

Task 5.3 – Risk Assessment and Feasible Remedial Alternatives Analysis Report -

Following the completion of the proposed Risk Assessment Evaluation and Remedial Alternatives Analysis, a Risk Assessment and Feasible Remedial Alternatives Analysis Report shall be prepared for the subject site. The report shall detail the procedures and findings from the completed baseline risk assessment and describe the calculations and resultant estimate of the amount of hydrocarbon mass present in the subject site's subsurface. It shall also take into consideration and summarize the assumption, parameters, and predictions from the predictive modeling scenarios included in the SCR. Figures and appendices supporting the findings of the report shall be attached to further illustrate the current condition of the subject site. The report shall appropriately evaluate the subject site and assess the risks as well as provide a proper closure strategy and remedial alternative for the subject site. Information/data generated during the interim remedial activities conducted at the subject site shall be incorporated into this task.

All AutoCAD maps / plans included in the report (e.g., site plan / base map, proposed remediation location map, dissolved plume maps, soil contaminant distribution maps, etc.) and appendices (e.g., boring logs, tables, remediation technology information, fate and transport modeling, risk assessment and sensitive receptor information) shall also be submitted electronically on CD and in hard copy to Solicitor and Technical Contact for review / comment prior to finalizing it. Once the successful bidder has addressed comments on the draft, the successful bidder shall finalize and issue the report to the PADEP.

D. QUALIFICATION QUESTIONS

In order for proposals to be considered administratively complete, bidder's proposals must provide written answers to the four (4) qualifications and experience questions provided below:

1. Does your company employ (not subcontract) a Pennsylvania Licensed Professional Geologist (P.G.) that is designated as the proposed project manager? How many years of experience does this person have?
2. How many Chapter 245 Corrective Action projects in the State has your company and/or the Pennsylvania Licensed P.G. closed after the completion and acceptance of an SCR, RAP and RACR (i.e., obtained relief from liability from the PaDEP) using the Statewide Health or Site Specific Standards? Please list up to five.
3. How many Chapter 250 Corrective Action projects in the State has your company and/or the Pennsylvania Licensed P.G. closed (i.e., obtained relief from liability from the PaDEP) using the Statewide Health or Site Specific Standards? Please list up to five.
4. Has your firm ever been a party to a terminated PaUSTIF-funded Fixed-Price (FP) or Pay-for-Performance (PFP) contract without attaining all of the Milestones? If so, please explain, including whether the conditions of the FP or PFP contract were met.

E. TYPE OF CONTRACT/BID INSTRUCTIONS

The Solicitor wishes to execute a mutually agreeable **FIXED PRICE CONTRACT** (Remediation Agreement). A copy of the standard Remediation Agreement is included as Attachment 3 to this RFB solicitation. This sample agreement has been previously employed by other Solicitors on other PaUSTIF-funded claims. The bidder must identify in the bid response document any modifications that they wish to propose to the Remediation Agreement language in Attachment 3 other than obvious modifications to fit this RFB (e.g., names and dates). The number and scope of any modifications to the standard agreement will be one of the criteria used to evaluate the bid. **All bid responses must clearly and unambiguously state whether the bidder accepts the Remediation Agreement**

included in Attachment 1 "as is," or provide a cross-referenced list of requested changes to this agreement. Any requested changes to the agreement should be specified in the bid response, however, these changes will need to be reviewed and agreed upon by both the Solicitor and the PaUSTIF.

The Remediation Agreement costs shall be based on unit prices for labor, equipment, materials, subcontractors/vendors and other direct costs.

The total cost quoted by the successful bidder will be the maximum amount to be paid by the Solicitor unless a change in scope is authorized and determined to be reasonable, necessary, and appropriate.

Because site characterization is an iterative process with each phase of characterization being shaped by the results of the previous phase, it is realistic to assume that reasonable, necessary and appropriate deviations from and modifications to this Scope of Work may occur during the project. The Remediation Agreement states that any significant changes to the Scope of Work will require approval by the Solicitor, PaUSTIF, and PaDEP.

The bidder shall provide its bid using the Standardized Bidding Spreadsheet format included in Attachment 1 with brief descriptions provided for each task provided in the body of the bid document. An electronic version of the Standardized Bidding Spreadsheet (in Microsoft Excel Format) has been provided within Attachment 1. In addition, the bidder shall provide a unit rate schedule that will be used for any out-of-scope work on this project.

The bidding firm **MUST INCLUDE THE FOLLOWING** in their proposal:

- A demonstration of the bidder's understanding of the existing site information provided in this RFB, industry standard practices and the objectives of the project.
- The bidder's approach to achieving the project objectives (implementing the scope of work) efficiently.
- A detailed **FIXED PRICE** quotation for completion of the scope of work; using the standardized format provided within the Standardized Bidding Spreadsheet included with Attachment 1, including a rate schedule for any out-of-scope work.
The following information relating to the bid pricing must be included:
 - The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs and equipment;
 - The bidder's proposed mark-ups on other direct costs and subcontractors (if any);
 - Estimated cost by task and total costs must be defined within the

proposal text **AND** on the Standardized Bidding Spreadsheet included with Attachment 1; and,

- The bidder's estimated total cost by task consistent with the proposed scope of work identifying all level-of-effort and cost assumptions.
- A detailed schedule of activities for completing the proposed scope of work inclusive of reasonable assumptions regarding the timing and duration of client and/or regulatory agency reviews (if any) need to complete the scope of work defined by this RFB;
- Indication of whether the bidder accepts or seeks changes in the proposed contract/terms and conditions;
- A copy of the bidder's proposed contract/terms and conditions;
- The bidder's levels of insurance;⁶
- The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs and equipment;
- The bidder's proposed markup on other direct costs and subcontractors (if any);
- Identification and detailed description of subcontractor use and involvement;
- Identification of any exceptions, assumptions or special conditions applicable to the scope of work;
- Costs by task must be defined within the proposal text and on the cost spreadsheet included in Attachment 1 and the bidder's cost by task consistent with the proposed scope of work identifying all level-of-effort and costing assumptions;
- A statement of qualifications including that of any major subcontractor(s);
- Description of the bidders approach to working with PaDEP from project inception through PaDEP approval of the SCR. Description of how PaDEP would be involved proactively in the resolution of any technical issues and how the PaDEP case team will be kept informed of activities at the subject site;

⁶ The successful bidder agrees and shall submit evidence to Solicitor and Technical Contact before beginning work that bidder has procured and will maintain Workers Compensation: commercial general liability insurance in the amount of \$1,000,000; contractor pollution liability insurance in the amount of \$1,000,000; automobile liability insurance in the amount of \$1,000,000; and professional liability insurance in the amount of \$1,00,000 for the work to be performed.

- Description of how the Solicitor and ICFI/PaUSTIF will be kept informed as to project progress and developments and how Solicitor (or designee) will be informed of and participate in evaluating technical issues that may arise during this project;
- Answers to the qualification questions discussed in the RFB;
- Identification and resumes of the members of the proposed project team for key project staff, including the proposed Pennsylvania Registered Professional Geologist of Record who will be responsible for overseeing the work and applying a Pennsylvania Professional Geologist's Seal to the project deliverables.

The bidder shall provide its bid pricing using the format identified in this RFB and will provide brief descriptions of each task in the body of the bid document. Also, the bidder must complete the detailed cost sheet (in Microsoft Excel Format) included within Attachment 1 of this RFB.

The scope of work, as described within this RFB, shall be conducted in accordance with industry standards and practices, and consistent with PaDEP requirements and guidelines. The successful bidder's work to complete all work tasks associated with this RFB will be subject to ongoing review by the PaUSTIF or its representatives to assess whether the work actually completed and the associated incurred costs are reasonable, necessary and appropriate

In order to facilitate PaUSTIF's review and reimbursement of invoices submitted under this claim, the Solicitor requires that project costs be invoiced by the tasks identified in the bid. The standard practice of tracking total cumulative costs by bid task will also be required to facilitate invoice review.

The bid responses must clearly and unambiguously state their acceptance of the provided contract or must clearly cross reference any requested changes.

Each bid package received will be assumed to be good for a period of up to 120 days after receipt unless otherwise noted. Please note that ICFI, PaUSTIF and Earth Resource Associates, Inc. will treat the bids as confidential, but that limited general information may be released to the Solicitor and/or Earth Resource Associates, Inc. after the bid selection process is completed. In addition, for your reference, a copy of the PaUSTIF Competitive Bidding Fact Sheet is provided within Attachment 1. The aforementioned guidance document provides you with additional information relative to the bidding process.

F. MANDATORY SITE VISIT

THERE WILL BE A MANDATORY SITE MEETING ON FEBRUARY 3, 2011. The Technical Contact (or his designee) will be at the site at 11:00 AM to answer questions and conduct a site tour for **ONE (1)** participant per firm. **This meeting is mandatory for all bidders – no exceptions. Any firm that does not attend the February 3, 2011 mandatory site visit will not be eligible to submit a bid response.** A confirmation of your intent to attend this meeting is requested to be provided to the Technical Contact via e-mail, no later than January 31, 2011 with the e-mail subject line containing “OTTO’S SERVICE STATION PAUSTIF CLAIM 2010-0104(F) – SITE MEETING ATTENDANCE CONFIRMATION.” The name and contact information of the prospective bidding firm should be included in the body of the e-mail.

ATTACHMENT 1

Project Documents

1. Otto's Service Station UST Closure Report (2010)
2. EDR USGS Historic Topographic Mapping (1898- 1973)
3. EDR USGS Historic Topographic Mapping (1994)
4. EDR Radius Report (2010)
5. EDR Sanborn Mapping (1919 – 1972)
6. EPA Low-Flow (Minimal Drawdown) Ground -Water Sampling Procedures (EPA/540/S-95/504) (April 1996)
7. PaDEP Groundwater Monitoring Guidance Manual, Document # 383-3000-001(December 1, 2001)
8. PaDEP Land Recycling Technical Guidance Manual – Section IV.A.4 Vapor Intrusion Into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard, Document 253-0330-100 (January 24, 2004)
9. Standardized Bidding Spreadsheet Format (Microsoft Excel)
10. PaUSTIF Competitive Bidding Fact Sheet
11. Sample Remediation Agreement (contract)