PETROLEUM STORAGE TANK RELEASE TRUST FUND

CONTAMINATED SOIL EXCAVATION AND TREATMENT CRITERIA

REQUEST FOR PROPOSAL

REVISION 7

Kansas Department of Health and Environment
Bureau of Environmental Remediation
Storage Tank Section
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Topeka, KS 66612-1367
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**ATTACHMENTS**

ATTACHMENT A ................................................................. Field Work Plan Worksheet
ATTACHMENT B ............................................................... Bureau of Waste Management Information

**EXHIBITS**

EXHIBIT 1 ................................................................. Site Specific Information
EXHIBIT 2 ................................................................. Project Bid Proposal Sheets
SECTION 1.0 PROPOSAL PROCESS INFORMATION

1.1 PURPOSE

The Owner/Operator (O/O), directed by the Kansas Department of Health and Environment (KDHE), is soliciting bids from Vendors to implement a pre-approved excavation, disposal and treatment plan for petroleum contaminated soils. The plan is designed to remove petroleum contaminated soils associated with underground and/or aboveground storage tank systems and replace the excavated areas with approved fill material. Contaminated soils will be treated to acceptable regulatory levels at a landfarm or disposed at an approved legal landfill.

Please refer to the most recent Limited Site Assessment RFP for the following subsections:

1.2 OBJECTIVE
1.3 LABOR DEFINITIONS
1.4 DEFINITIONS
1.5 INQUIRIES
1.6 REVISIONS TO THE REQUEST FOR PROPOSAL
1.7 SUBCONTRACTORS
1.8 SUBMISSION OF PROPOSAL
1.9 WITHDRAWAL OF BIDS
1.10 PROPOSAL OBLIGATIONS
1.11 TERM OF PROPOSAL
1.12 DISPOSITION OF PROPOSALS
1.13 NOTIFICATION OF APPROVED COSTS
1.14 EVALUATION CRITERIA
1.15 CONFLICT OR AMBIGUITIES

SECTION 2.0 CONTRACT INFORMATION

Please refer to the most recent Limited Site Assessment RFP for the following subsections:

2.1 PURPOSE
2.2 CONTRACT DOCUMENT
2.3 RESPONSIBILITIES
2.4 ERRORS IN PREPARATION
2.5 CONTRACT AMENDMENTS
2.6 COMPLIANCE WITH LAW
2.7 SEVERABILITY
2.8 ASSIGNMENT, TRANSFER, CONVEYANCE, SUBCONTRACT, AND DISPOSAL
2.9 INSURANCE
2.10 INDEMNIFICATION
2.11 LIEN RELEASES
2.12 COMMUNICATION AND NOTICES
2.13 TERMINATION
2.14 WAIVER
SECTION 3.0 STATEMENT OF WORK

3.1 GENERAL INFORMATION

3.1.1 The following information is provided to assist the O/O in obtaining proposals for the scope of work necessary to accomplish the goals outlined herein. See also Section 6.0 of this document, Proposal and Work Specific Definitions, and review information required in Section 4.0 for the Excavation and Landfarm Reports.

3.1.2 The Vendor may modify the scope of work; however, all modifications and justification for the modifications must be identified as such in the proposal. Modifications to the proposal must be approved in writing by KDHE prior to the initiation of work.

3.1.3 The Vendor is responsible for insuring that work performed under the contract complies with all applicable Standard Operating Procedures (SOPs) as included in the most recent KDHE-Division of Environment Quality Management Plan (QMP) or directed by the KDHE Project Manager if it is determined by the KDHE that more rigorous operating procedures are warranted. The QMP can be obtained from the KDHE Project Manager or from the KDHE website at http://www.kdheks.gov/environment/qmp/qmp.htm.

3.1.4 KDHE reserves the right to reject any modification to proposals.

3.1.5 The definition of the Excavation Bid Sheet and work specific definitions can be found in Section 6.0 of this RFP.

3.2 SITE INFORMATION

Review the Site Specific Information (SSI) sheet for the site(s) in Exhibit 1. Conduct the work described therein following the requirements outlined in this document.

3.3 FIELD WORK

3.3.1 Excavation, Disposal, Treatment and Backfill Goals

3.3.1.1 Complete the field work in accordance with all requirements outlined in this document.

3.3.1.2 Characterize the in-place soil contamination prior to excavation activities.

3.3.1.3 Remove the specified horizontal and vertical extent of contaminated soil, as stated in the SSI or as directed by the KDHE.

3.3.1.4 Load, transport and off-load contaminated soils at a pre-approved location (landfarm or legal landfill).
3.3.1.5 For landfarms, treat the contaminated soils by turning until acceptable regulatory levels are met. Upon completion of the turning events, conduct a field screening event and collect laboratory soil samples for confirmation.

3.3.1.6 Provide approved backfill material, compacted and tested to meet acceptable site specific standards.

3.3.1.7 The Vendor is responsible for meeting the Excavation, Disposal, Treatment and Backfill Goals outlined in this Section and Section 4.0 Deliverables.

3.3.2 Characterization of Contaminated Soils to be Landfarmed

3.3.2.1 If prior investigation work was conducted at the site, and soil samples were collected for the required analyses, this work may not be needed. This information, if available, would be provided in the SSI in Exhibit 1 of the bid package.

3.3.2.2 In the event soil contamination levels for the appropriate analytes have not been characterized, soil samples will need to be collected for laboratory analysis through soil borings or probes prior to excavation mobilization. Soil samples will not be collected from the saturated zone.

3.3.2.3 Two soil samples will be collected from the areas suspected to have the highest petroleum contamination within the proposed excavation boundaries. In order to meet Bureau of Waste Management (BWM) landfarm authorization and Storage Tank criteria, soil samples should be analyzed for Benzene, Toluene, Ethylbenzene, Xylenes, 1,2 DCA, MtBE, Naphthalene, EDB, Low-Range Hydrocarbons (LRH), Mid-Range Hydrocarbons (MRH), High-Range Hydrocarbons (HRH), and Total Lead.

3.3.2.4 The analyses will be provided to the KDHE Project Manager for review. As soon as the analyses are reviewed and KDHE determines the contaminated soils can be excavated, the Vendor will be contacted and field work can be scheduled.

3.3.3 Excavation of Contaminated Soils

3.3.3.1 Prior to site mobilization, the Vendor must locate all utilities (above and below ground) in the proposed excavation area(s). Because the absolute boundary or the extent of the contamination is not defined, the Vendor must also determine the utility locations surrounding the proposed excavation area to avoid possible delays.

3.3.3.2 The Vendor must supply sufficient Health and Safety Supplies at the site during all excavation activities.
3.3.3.3 The Vendor will be responsible for securing the site from the public using appropriate materials (barrels, fencing, etc.) to avoid hazards associated with excavations.

3.3.3.4 The Vendor will excavate up to the approved quantity of soil as stated in the SSI. In the event additional contaminated soils are discovered during the excavation process, the KDHE Project Manager will be contacted to obtain further instruction.

3.3.3.5 The Vendor will segregate any non-impacted soils which may overlie the contaminated soil during the removal process to minimize the quantity of soil to be treated. These soils could be utilized as approved backfill (if compaction standards can be met) upon completion of contaminated soil removal.

3.3.3.6 If shallow groundwater is encountered during the excavation process, all excavation activities will be stopped, and the KDHE representative must be contacted immediately. If shallow groundwater is anticipated, respond as directed in the SSI.

3.3.3.7 Any rocks or debris detected in the contaminated soil must be segregated and disposed of properly. These items can damage turning equipment at a landfarm.

3.3.3.8 Upon completion of excavating authorized contaminated soil areas, lab soil samples should be collected to confirm the levels of contamination remaining onsite. Four soil samples will be collected from the sidewalls and two from the bottom of the excavated areas. If more than 6 soil samples are needed, contact the KDHE Project Manager for approval. Soil samples will be analyzed for Benzene, Toluene, Ethylbenzene, Xylenes, 1,2 DCA, MtBE, Naphthalene, EDB, LRH, MRH, and HRH.

3.3.4 Disposal of Contaminated Soils

3.3.4.1 Disposal of contaminated soils at a landfarm

1) The Vendor will be responsible for locating a specific plot of land from a local landowner to be used for spreading and treating contaminated soils. This location must be evaluated and approved by a District Office or other KDHE representative prior to use.

2) The location of the landfarm property must be 1/4 mile from any public or private water supply, including wells and surface waters and at least 500 feet from any resident or business. Groundwater depth in the area of the landfarm must be 10 feet below ground surface or deeper. See Section 3.3.5 for landfarm preparation, soil spreading and sampling criteria.
3) The landfarm location is presumed to be within three miles of the project site for bidding purposes. The Vendor will provide a mileage rate to address the additional transportation cost if the landfarm area is located more than three miles from the excavation site.

4) The Vendor or their representative is responsible for completing the “Application to Landfarm Petroleum Contaminated Soils Without a Permit”. This document, with attachments, should be sent to the Solid Waste Permits Section of the BWM for review and approval. The application, Landfarm Operating Plan and Landfarm Closure Plan are included for reference in Attachment B. A copy of the completed site specific application with attachments should be sent to the KDHE Project Manager.

5) If a land lease is necessary, the initial lease will be for one year with the option to renew for additional time. The landfarm property owner may have the option to perform the turning of the contaminated soil. A lease agreement must be written and signed by both the Vendor and the landfarm property owner. Copies of the lease agreement will be submitted to KDHE prior to initiating the excavation work. The payment schedule for the lease agreement, as approved by KDHE, will be a one-time lump sum payment. A condition of the lease agreement must be that the Remediated soil will become the possession of the landfarm property owner when KDHE has determined that the soils have been remediated to acceptable regulatory levels.

6) The Vendor will load the contaminated soil at the excavation site, transport and off-load the contaminated soils to the pre-determined landfarm location for disposal.

7) Contaminated soils will not be stockpiled on the landfarm property.

3.3.4.2 Disposal of contaminated soils on the site property

1) Where applicable, contaminated soils may be spread onsite, provided the landfarm location criteria (Section 3.3.4.1 item 2) and berming/spreading criteria (Section 3.3.5) are met.

2) Contaminated soils will not be stockpiled onsite.

3.3.4.3 Disposal of contaminated soils at a pre-approved legal landfill

1) Contaminated soils may be taken to an area landfill for disposal provided efforts to locate a land treatment area or other form of treatment location were unsuccessful. Landfill disposal must be pre-approved in writing by KDHE.
2) Specific criteria set forth by BWM concerning landfill disposal (i.e. soil sampling and waste manifest preparation) must be followed. Contact the BWM for more information.

3.3.5 Landfarm Treatment of Contaminated Soils

3.3.5.1 Berming of the landfarm area is required to prevent run-on and run-off. The Vendor will construct the berm a minimum of 18 inches above normal ground surface, using native soils from the landfarm property.

3.3.5.2 Upon delivery and off-loading of contaminated soils at the landfarm site, the Vendor will thin-spread the soils 6 inches in height within the bermed area.

3.3.5.3 In approximately 25-30 days after the soils have been initially thin-spread at the landfarm site, the first turning event must be conducted. The Vendor will conduct three turning events; one turning every 25-30 days.

3.3.5.4 The Vendor’s Sampling Technician will inspect the treated soil approximately 20 days after the last of three turning events. The soils will be inspected to determine existing soil contamination levels through field screening. Soil samples will be collected at a depth of 4 to 5 inches below the soil surface. Based on areal square footage of the landfarm, soil samples will be collected and field screened from each 100 foot by 100 foot square area. Samples should also include areas where soils are discolored, previously known to have odors, or in some cases, little-to-no vegetative growth. A record and map of the sample locations will be provided in the Landfarm Report (as described in Section 4.0).

3.3.5.5 The Vendor will contact the KDHE Project Manager to report field screening levels and determine if laboratory confirmation samples should be collected. If soil field screening levels are above acceptable regulatory levels, the KDHE Project Manager will authorize additional turnings, and subsequent inspections.

3.3.5.6 Upon KDHE approval, the Sampling Technician will collect grab soil samples from the areas of highest contamination determined through field screening. The grab samples should be submitted to a KDHE certified laboratory for confirmation analysis. The number of confirmation samples will depend on the number of samples that exhibited contamination during inspection. No more than six lab soil samples should be analyzed. If field screening results were negligible and contamination was not detected, collect two lab soil samples from areas that historically exhibited contamination. The confirmation samples will be analyzed for Benzene, Toluene, Ethylbenzene, Xylenes, 1,2 DCA, MtBE, Naphthalene, EDB, LRH, MRH, and HRH.
3.3.5.7 Upon completion of the turning events and confirmation that the soils are remediated below acceptable regulatory levels, KDHE will inform the Vendor and the landfarm property owner of these conditions. Upon receipt of the Landfarm Closure letter from the BWM, the berm should be demolished and normal land use may resume.

3.3.6 Backfill

3.3.6.1 Following the excavation of contaminated soils, the Vendor will arrange for clean backfill material to be placed in the excavated area(s). The bid sheet(s) will specify the type and quantity of clean fill material for bidding purposes.

3.3.6.2 Excavated non-impacted soils must be utilized as approved backfill if compaction standards can be met. Backfill material will be tested (standard proctor test) prior to placement to determine compaction capability.

3.3.6.3 The volume of contaminated soils removed during excavation activities will be the same volume of clean fill material replaced and compacted. If the O/O is removing USTs as part of the excavation activities, the O/O is responsible for replacing and compacting any and all tank volumes with clean fill material, unless otherwise specified by the KDHE Project Manager.

3.3.6.4 The Vendor will arrange for compaction of clean fill material which meets acceptable industry standards. A compaction density of 95% or 98% will be achieved during the compaction process. A compaction density of 95% will be achieved in the event the use of the resulting surface area will be a parking lot or unimproved surface. A compaction density of 98% will be achieved in the event a building or other structure will be placed over the backfilled area. A geotechnical firm representative, or other person trained in density testing equipment, will conduct onsite density testing on every 6 inch compacted lift during backfilling activities. Density testing usually occurs in the top 5 (five) feet of backfill in the excavated areas, with a self-compacting material below this depth. A standard proctor should be conducted on the (proposed) clean backfill material prior to use. The Vendor will be responsible for any future repair needed due to incomplete or improper compaction.

3.3.6.5 The Vendor will arrange for replacing the surface over the excavated areas to meet pre-excavation site conditions (concrete, asphalt, rock, etc.). The type and amount of replacement material will depend on current land use and will be addressed in the SSI and bid sheets.

3.3.6.6 Special instructions to this sub-section will be addressed in the SSI.
3.3.7 Wastewater Disposal

In the event water fills or partially fills the excavated area(s), the KDHE Project Manager will be contacted immediately. Water will need to be removed prior to resuming excavation activities as directed by the KDHE Project Manager. Disposal of wastewater must be conducted in accordance with state, federal and local laws. If the excavated area becomes filled with water due to contractor negligence, KDHE may not reimburse for the removal or disposal of the wastewater.

3.3.8 Property Access

3.3.8.1 The Vendor is responsible for contacting the property owner to obtain access. Written authorization will be obtained from the owner. Initial contact may be verbal, but written permission must be obtained from the owner prior to mobilizing equipment to the site to begin excavation operations.

3.3.8.2 At least two written and two verbal attempts to obtain access must be made. If access is denied from the property owner or no response is received within three weeks of the initial contact, the KDHE Project Manager should be notified in writing. Written notification should include copies of letters sent, phone records, field notes, any additional supporting documentation, and request KDHE’s assistance in acquiring access.

3.3.9 Property Restoration

3.3.9.1 Any property damaged or destroyed during excavation activities must be restored to its original condition prior to damage or destruction within 30 calendar days. All costs associated with the restoration are the responsibility of the Vendor.

3.3.9.2 If any professionally landscaped areas are disturbed during the excavation activities, the Vendor must contract with a Landscape Professional to conduct the necessary repairs. Documentation of the contract will be required.

SECTION 4.0 DELIVERABLES

4.1 PRE-CONTRACT SUBMITTALS

Please refer to the most recent Limited Site Assessment RFP for Pre-contract Submittals specifications.
4.2 DEADLINES AND NOTICE TO PROCEED

4.2.1 The Vendor will complete and submit two copies of the Field Work Plan Worksheet (see Attachment A) with the required maps and photos to KDHE after the contract between the O/O and the Vendor has been signed by all parties. Incomplete Field Work Plans will be returned without review. Work Plans will be completed by the staff that will be onsite during the soil characterization and excavation field work.

4.2.2 KDHE will review the Field Work Plan Worksheet within 10 working days of receipt. Work Plans will not be reviewed until verification of the required insurance (see Section 2.9) has been received by the KDHE Project Manager. KDHE will provide written comment, or if approved, written authorization for the Vendor to proceed.

4.2.3 The Vendor will submit one copy of the Excavation Report for each site within 160 days after the contract between the O/O and the Vendor has been signed by all parties. Incomplete Excavation Reports will be returned without review. The submittal deadline will not be considered ‘met’ until a complete report demonstrating that the excavation goals have been met is received by KDHE. Report contents are stated in Section 4.4 of this RFP.

4.2.4 The Vendor will submit one copy of the Landfarm Report upon completion of landfarm soil sample collection. The report is due to the KDHE Project Manager 45 days after sample collection. Report contents are stated in Section 4.5 of this RFP.

4.3 WORK NOTIFICATION REQUIREMENTS

4.3.1 The Vendor will notify the KDHE Project Manager and KDHE District Office Representative a minimum of seven (7) days prior to initiation of all field work by completing the online Field Activities Notification Form: http://www.kdheks.gov/tanks/. In the left-hand column, click on the “Field Activities Notification Form” link. This is to include all field work (i.e. drilling activities, probing, excavation, landfarm turning, etc.).

4.3.2 The Vendor will notify the O/O, current property owner, current site tenant, the landfarm property owner, owner and tenants of any property on which field work (i.e. drilling activities, probing, excavation, landfarm turning, etc.) is to be performed by telephone or in writing at least seven working days in advance of excavation activities. The advance notification will include the date and time the field activity is scheduled to begin.

4.3.3 Schedule changes must be reported to the O/O, the KDHE Project Manager and District Office Representative in the same manner as in Sections 4.3.1 and 4.3.2. Approval to proceed with any field activities mentioned in 4.3.1 and 4.3.2, after a schedule change has been reported, must be approved by the KDHE Project Manager.
4.4 EXCAVATION REPORT SUBMITTAL

4.4.1 An Excavation Report will be completed for each facility. Each Excavation Report will be a summary of all work performed and all data requested and gathered during all activities conducted under the excavation phase of this contract.

Upon approval of the Excavation Report, one electronic copy, in Adobe format (.pdf), must be submitted to KDHE on a CD. KDHE may also request electronic files in original format at no additional cost. The final report must contain a sleeve for storage of the CD.

4.4.2 One copy of the Excavation Report will be submitted to the respective O/O. The Vendor may wait until the Excavation Report has been reviewed and approved by KDHE before providing the O/O with a copy. If the Vendor provides the O/O with a copy prior to approval of the report, copies of any and all revisions and/or addenda must also be provided to the O/O.

4.4.3 Each Excavation Report will be bound and include a cover page with the following information: report title; KDHE site name; site address; KDHE Project Code; KDHE Facility I.D. number; section, township and range to four quarters; report date; and the name of the person who prepared the report. Cover page must be stamped and signed by a Licensed Professional.

Each Excavation Report will include a table of contents with the following information:

1) Section titles (see 4.4.4 below) for sections 1-4,
2) Titles and page numbers for tables 1.1-1.3,
3) Titles for figures 2.1-2.4,
4) Titles for each appendix in Section 4, Documentation.

4.4.4 Each Final Report will include all information outlined below in the format and order described. Figures and tables not applicable to the site must be so noted in the table of contents. Do not change the item numbers designated below. Items within tables that may not be applicable must be stated in the table to be not applicable.

SECTION 1.0 TABLES

Tables must be labeled with KDHE site name, KDHE project code and the numbers and titles provided below. Number each page of tables. Include in the table a column for each numbered item requested. Column headings must be included on each page. Do not reference or include in this section, any discussion, tables, maps, photographs, drilling logs, or other documents included in this report. Abbreviations or material referenced from other publications must be explained at the bottom of the table. If an item is not applicable, please indicate “NA” in the appropriate place.
Table 1.1 - Summary of Work Completed

Include the following information for work completed at the storage tank site:

1) number of tanks removed and their size (if applicable),
2) total number of cubic yards of contaminated soil excavated,
3) number of cubic yards of contaminated soils taken to the landfarm for treatment and disposal,
4) number of cubic yards or tons (state which quantity was reported on the weigh tickets) of contaminated soils taken to a landfill for disposal,
5) number of cubic yards of clean soils removed from the excavated areas; also state where the soils were placed,
6) number of cubic yards of clean backfill material hauled to the site; designate the type of material (sediment and/or aggregate types) and quantity of each,
7) number of cubic yards of concrete/asphalt rubble disposed of;
8) the cubic feet of concrete or asphalt used for site restoration (include thickness),
9) dimensions of each excavated area, including depth.

Table 1.2 - Soil Characterization

Include lab sample analyses collected prior to the excavation to potentially characterize the highest levels of soil contamination at the site.

1) boring or probe number,
2) interval from which each sample was collected,
3) field screening results in parts per million (ppm),
4) concentration of each specified constituent in ppm determined through laboratory analysis,*
5) state the petroleum types identified,
6) date each sample collected,
7) the EPA test method and laboratory analytical sample detection limit for each analyte in each laboratory sample,
8) field instrument used,
9) Tier 2 Risk-Based Screening Levels.

* Constituents are Benzene, Toluene, Ethylbenzene, Total Xylenes, 1,2 Dichloroethane (1,2 DCA), Methyl Tertbutyl Ether (MtBE), Naphthalene, Ethylene Dibromide (EDB), LRH, MRH, HRH, and total lead.

Table 1.3 - Soil Field Screening and Laboratory Results

Include soil field screening results obtained during the excavation process and laboratory soil sample results from the confirmation samples taken upon completion of the excavation.

1) sample ID number,
2) specific location of each field screened sample (i.e. north sidewall of former basin, beneath west pump island, etc.),
3) sample depth,
4) field screening results in ppm,
5) date sample was field screened and collected,
6) the concentration of each specified constituent in parts per million (ppm) determined by laboratory analysis; state the petroleum product(s) identified,*
7) the EPA test method and laboratory analytical sample detection limit for each analyte in each laboratory sample,
8) field instrument used for each field sample,
9) Tier 2 Risk-Based Screening Levels.

* Constituents are Benzene, Toluene, Ethylbenzene, Total Xylenes, 1,2 Dichloroethane (1,2 DCA), Methyl Tertbutyl Ether (MtBE), Naphthalene, Ethylene Dibromide (EDB), LRH, MRH, and HRH.

SECTION 2.0 MAPS

All maps must be drawn to scale and labeled with the titles provided, KDHE site name, and KDHE project code. Do not reference or include in this section any discussion, tables, photographs, drilling logs, or other documents included in this or any other report. Maps are required to be single-sided.

Figure 2.1 General Site Location

A copy of the topographic map adapted from a USGS 7.5 minute quadrangle map, depicting the site location and a one mile radius around the site. Highlight or mark the location of the site. Contours and other information on the map must be clear and legible. If the landfarm location is visible on this map, highlight or mark and label the landfarm property also.

Figure 2.2 Landfarm Location

A copy of the topographic map adapted from a USGS 7.5 minute quadrangle map, depicting the location of the landfarm and a one mile radius around the landfarm site. Highlight or mark the location of the landfarm. Contours and other information on the map must be clear and legible. If the landfarm location is visible on Figure 2.1, this figure may be omitted.

Figure 2.3 Area Base Map

A map of the area depicting the site prior to excavation. The map should be enlarged such that the facility is located at or near the center of the map. The scale of the map shall be 1” = 50’ for smaller sites and no greater than 1” = 100’ for larger sites.

The following must be included and labeled on the map:
1) all existing wells,
2) roads, property boundaries and buildings,
3) identify the general use (residential, park, undeveloped, industrial, commercial, etc.) of properties in the area,
4) business names,
5) property owners names,
6) locations or former locations of all tanks, lines, buildings, driveways, and other fixed objects on the facility property,
7) locations of all underground utility trenches and overhead lines onsite and within 25 feet of the site property boundary. State the type and depth of each utility service.

**Figure 2.4 Excavation Map**

A detailed map, adapted from Figure 2.3, of all excavation boundaries determined upon completion of the excavation activities. Indicate where soil samples were collected for field screening and laboratory samples. Indicate any change in property structures or damage to monitoring wells.

**SECTION 3.0 PHOTOGRAPHS**

3.1 All photographs shall be color print or color copies. Photographs will be taken from an appropriate distance and angle for the subject to be clearly visible and identifiable. Photographs of the entire site should be taken to document the condition of the site prior to the excavation. Each photograph shall illustrate the spatial relationships of the various structures at the site (buildings, roads, tank basin locations, etc.). Each photograph shall include a description of the scene, the direction the picture was taken (i.e. looking east), and the date of the photo. Include at a minimum the following photographs (minimum 10 photos), two photos per page:

1) Two photos of the entire facility taken from two distinctly different directions, including buildings, overhead lines, tank systems and any remedial systems.
2) Two photos of the tank basin and other areas to be excavated, prior to excavation.
3) Two photos of the tank basin and other areas being excavated, during the excavation process, specifically illustrating the contaminated soil and any non-impacted surrounding soils.
4) Two photos of the tank basin and other excavated areas after all excavated areas have been backfilled and the site restored.
5) If landfarming, two photos of the landfarm area, both taken after contaminated soils were off-loaded and thin-spread on the property. One of these pictures should show the berm.

**SECTION 4.0 DOCUMENTATION**

**Appendix 1** - A copy of the landfarm lease agreement (if applicable), and a copy of the “Application to Landfarm Petroleum Contaminated Soils Without a Permit” if soils are landfarmed.

**Appendix 2** - A copy of the compaction and density testing reports from the geotechnical firm.
Appendix 3 - Include all analytical laboratory reports and Chain of Custody documents. All lab reports must include the following QA/QC data for all samples:

- Calibration check against the true value or initial calibration every 20 samples. This should be a mid-range calibration.
- Surrogate % recovery for each soil and water sample.
- Matrix spike and duplicate for each constituent every 20 samples or each run, whichever is more frequent.
- Method blank and duplicate for each extraction.

Reporting limits for all samples must be the Practical Quantitation Limit (PQL) for that sample. Reporting limits set at the Maximum Concentration Limit (MCL) are not acceptable.

Appendix 4 - A copy of field notes, daily time sheets, drill/boring logs, property access agreements and any lien releases.

Appendix 5 - A copy of all truck tickets indicating types of material moved and load sizes.

Appendix 6 - A copy of all transport papers, i.e. the waste manifest from the legal landfill where contaminated soils were disposed (if applicable).

4.5 LANDFARM REPORT SUBMITTAL

4.5.1 A Landfarm Report will be completed for the facility. The Landfarm Report will be a summary of all work performed and all data requested and gathered during all activities conducted under this contract.

Upon approval of the Landfarm Report, one electronic copy, in Adobe format (.pdf), must be submitted to KDHE on a CD. KDHE may also request electronic files in original format at no additional cost. The final report must contain a sleeve for storage of the CD.

4.5.2 One copy of the Landfarm Report will be submitted to the respective O/O. The Vendor may wait until the Landfarm Report has been reviewed and approved by KDHE before providing the O/O with a copy. If the Vendor provides the O/O with a copy prior to approval of the report, copies of any and all revisions and/or addenda must also be provided to the O/O.

4.5.3 Each Landfarm Report will include a cover page with the following information: report title; KDHE site name; site address; KDHE project code; KDHE Facility I.D. number; section, township, and range to four quarters; report date; and the name of the person who prepared the report. Cover page must be stamped and signed by a Kansas Licensed Professional.

4.5.4 The Landfarm Report will include all information outlined below in the format and order described. Do not change the item numbers designated below. Items
within tables that may not be applicable must be stated in the table to be not applicable.

This report will be submitted after landfarming goals are met. Each Landfarm Report (LFR) will include all information outlined below in the format described.

**LFR Section 1.0 TABLES**

All tables will include a row or column for each numbered item requested.

**Table 1.1 - Landfarm Turning Dates**

Include the following information:
1) landfarm soil turning dates,
2) indicate the equipment used to turn the soils (tractor, etc.).

**Table 1.2 - Soil Field Screening**

Include the following results for each field sample collected:
1) field screened sample identification number,
2) date(s) the soils were inspected and field screened,
3) field screening results in parts per million (ppm) of each sample.

**Table 1.3 - Soil Laboratory Results**

Include the following results for each grab laboratory sample collected:
1) sample ID number,
2) field screening results in ppm,
3) date sample was field screened and collected,
4) the number of grab samples collected,
5) the concentration of each specified constituent in parts per million (ppm) determined by laboratory analysis; state the petroleum product(s) identified,*
6) the EPA test method and laboratory analytical sample detection limit for each analyte in each laboratory sample,
7) field instrument used for each field sample,
8) Tier 2 Risk-Based Screening Levels.

* Constituents are Benzene, Toluene, Ethylbenzene, Total Xylenes, 1,2 Dichloroethane (1,2 DCA), Methyl Tertbutyl Ether (MtBE), Naphthalene, Ethylene Dibromide (EDB), LRH, MRH, and HRH.

**LFR Section 2.0 MAPS**

**Figure 2.1 Landfarm Base Map**

A landfarm area map is required and should indicate where soil samples were collected for field screening and laboratory analysis. Each sample location should be labeled with the same identification number as stated in Tables 1.2 and 1.3.
The scale of the map should be $1'' = 50'$ for smaller landfarms, and up to $1'' = 100'$ for larger landfarms. The KDHE Project Manager should be contacted if the scale needs to be adapted. This map should be computer generated, but not adapted from a topo map. Separate maps will be submitted for each field screening event and each laboratory sampling event.

**LFR Section 3.0 DOCUMENTATION**

**Appendix 1** - Include all analytical laboratory reports and Chain of Custody documents. All lab reports must include the following QA/QC data for all samples:

- Calibration check against the true value or initial calibration every 20 samples. This should be a mid-range calibration.
- Surrogate % recovery for each soil and water sample.
- Matrix spike and duplicate for each constituent every 20 samples or each run, whichever is more frequent.
- Method blank and duplicate for each extraction.

Reporting limits for all samples must be the PQL for that sample. Reporting limits set at the MCL are not acceptable.

**Appendix 2** - A copy of all field notes.

**SECTION 5.0 REIMBURSEMENT**

**5.1 REIMBURSEMENT GUIDELINES**

5.1.1 All Requests for Reimbursement must include the following:

5.1.1.1 Completed Request for Reimbursement forms signed by the O/O or their authorized representative. (Must be original signatures - copies not accepted.) Request for Reimbursement forms must be complete, clean and accurate.

5.1.1.2 If the Request for Reimbursement is being submitted by Vendor as “Attorney in Fact” for O/O, then the following must occur:

5.1.1.2.1 A copy of the “Attorney in Fact” agreement must either be on file with KDHE, or included with the request.

5.1.1.2.2 The Request for Reimbursement form must be marked to indicate it is being submitted as “Attorney in Fact” for O/O.

5.1.1.2.3 The Request for Reimbursement form must show the correct remittance address.
5.1.1.3 Vendor invoices submitted for reimbursement must use the same line item format as the Project Bid Proposal Sheets.

5.1.1.4 If landfill disposal is approved, waste manifest(s) must be submitted for acceptable reimbursement processing.

5.1.2 Total reimbursement will not exceed the lesser of the actual costs incurred for each line item or the total cost for each line item in the Project Bid Proposal Sheet unit pricing.

5.1.3 The Vendor will only receive payment for work conducted and accepted in accordance with the specifications outlined in this document.

5.1.4 Payment to the Vendor will be prorated in accordance with actual work performed (i.e. if only 50% of a line item is completed/required, then 50% of the approved line item will be reimbursed). The following categories will be prorated: cubic yards, tons, square footage, turnings, gallons, excavation oversight hours, and sampling.

Vendor shall obtain a minimum of three written bids for equipment, materials, and subcontracted services not included in the approved EXC bid that are in excess of $500.00 per item, unless otherwise specified by KDHE. KDHE will reimburse the amount of the lowest bid plus a surcharge as indicated below:

<table>
<thead>
<tr>
<th>SURCHARGE DESCRIPTION</th>
<th>SURCHARGE PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items less than $5000.00</td>
<td>10%</td>
</tr>
<tr>
<td>Items between $5,000 and $25,000</td>
<td>8%</td>
</tr>
<tr>
<td>Items greater than $25,000</td>
<td>6%</td>
</tr>
</tbody>
</table>

5.1.5 The Vendor may submit invoices for reimbursement at the following stages of project completion:

<table>
<thead>
<tr>
<th>Completion</th>
<th>Invoice Amt.</th>
<th>Pay Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplan, Excavation, Landfarm, or Landfill</td>
<td>100%</td>
<td>90% of the approved invoice amount. Work must be completed.</td>
</tr>
<tr>
<td>Final Report</td>
<td>100%</td>
<td>90% of the approved invoice amount. Work must be completed and the report received by KDHE. Balance of the Contract Value upon approval of the report.</td>
</tr>
</tbody>
</table>
5.1.6 KDHE will review the Excavation and Landfarm Reports within sixty (60) calendar days of receipt and submit written comment to the Vendor; or if approved, the remaining 10% will be released. If KDHE fails to review these Reports and approve them or provide written comment within the sixty (60) calendar day time period, the remaining 10% will be released.

5.1.7 Written notification of the Excavation Report approval will include notice of KDHE’s decision on the next phase of work to be implemented at the site if applicable.

5.1.8 All reimbursement request must be submitted no later than 60 days after the completion of the project.

SECTION 6.0 PROPOSAL AND WORK SPECIFIC DEFINITIONS

6.1 DEFINITIONS

6.1.1 BACKFILL
The clean material used to fill the excavated areas. This item will be bid on a per cubic yard basis and will include the materials, loading, transportation, and off-loading at the project site. Payment will be made for the actual quantities of material used at the rates contained in the bid.

6.1.2 COMPACTION
This item will be bid on a per cubic yard basis, and will include all labor and equipment costs to physically compact, or compress, the clean backfill material in the excavated area(s).

6.1.3 EQUIPMENT OPERATOR
Any person who operates the excavation, disposal and/or treatment equipment. The equipment operator (Vendor or subcontractor) will have 100 hours of backhoe or similar excavation equipment experience prior to entering into a contract with the O/O.

6.1.4 EXCAVATION
The removal of soils from a designated subsurface area which have been impacted by petroleum products. This item will be bid on a per cubic yard basis and will include all mobilization costs. Excavation costs will not include removal of existing tanks, product lines, pumps, awnings, buildings, etc., which may be in place at the site unless indicated on the SSI and/or Exhibit 2.

6.1.5 EXCAVATION BID PROPOSAL SHEET
The cost sheet used by the Vendor to calculate and submit a formal bid to KDHE for the excavation scope of work outlined in this RFP.

6.1.6 EXCAVATION EQUIPMENT
The equipment necessary to remove the contaminated soils from the designated subsurface area.
6.1.7 **EXCAVATION OVERSIGHT**
Oversight of all excavation activities will be performed by a representative of the Vendor. This person will possess basic knowledge of soil contamination characteristics.

6.1.8 **EXCAVATION REPORT**
This item shall include all labor and equipment costs to properly complete and submit the Excavation Report. The Excavation Report requirements and format are included in Section 4.4 of this document.

6.1.9 **GEOTECHNICAL FIRM**
Company or company representative trained in density testing equipment usage, will conduct soil density tests on each 6 inch compacted lift of clean backfill material during the compaction process. Density testing usually occurs in the top 5 (five) feet of the excavated areas, with a self-compacting material below this depth. This item will be bid on a lump sum basis and will include man hours, mobilization and equipment use.

6.1.10 **LAB METHODS**
This item shall include designation of the EPA methods to be used for laboratory analysis of soil samples.

6.1.11 **LABORATORY NAME**
This item shall include the designation of the KDHE-approved laboratory that will be performing the analyses of soil samples.

6.1.12 **LANDFARMING**
The process of spreading and turning contaminated soils to ultimately reduce contaminant concentrations of specified petroleum constituents through volatilization.

6.1.13 **LANDFARM REPORT**
This item will include all labor and equipment costs to properly complete and submit the Landfarm Report. The report requirements and format are outlined in Section 4.5 of this RFP.

6.1.14 **LANDFARM SITE**
The location of a pre-determined land area to dispose of and treat contaminated soils. Each landfarm site must meet specific criteria prior to approval as a disposal area.

6.1.15 **LANDFILL**
A permitted land area which accepts various types of refuse for disposal or daily cover material, including contaminated soils. This item will include costs per ton for contaminated soil transportation and disposal.
6.1.16 **LOADING**  
The process of placing contaminated soils from the excavated areas to appropriate transport vehicles.

6.1.17 **OTHER**  
This item shall include all costs not included in specific items of the cost proposal sheet. If this category is used, the bidder must list each item and briefly explain its function.

6.1.18 **SITE SECURITY**  
This item shall include the costs necessary to prevent the general public from entering the excavation area. This will include appropriate safety materials (fences, barricades, cones, etc.) needed to avoid injury.

6.1.19 **SITE SPECIFIC INFORMATION (SSI) SHEET (Exhibit 1)**  
The bid sheet containing detailed information about the KDHE Storage Tank site. Any adaptations to this RFP will be contained in the SSI.

6.1.20 **SOIL SAMPLES**  
This item shall include all costs associated with the collection and analysis of samples (i.e. labor, equipment, shipping, etc.). All samples shall be analyzed in accordance with the criteria provided in this document for the constituents outlined in Exhibit 2. Provide the per sample cost for collection and analysis for each constituent indicated.

6.1.21 **SPREADING**  
After the soils have been taken to the pre-approved landfarm location, the soils will be spread six (6) inches in height above native ground surface, unless otherwise specified in the SSI. Soils will be spread within one day of being deposited at the landfarm site.

6.1.22 **TRANSPORTATION**  
The process of hauling the contaminated soils to a pre-approved landfarm site or pre-determined legal landfill. If the contaminated soil will be taken to a landfarm, this item will be bid on a per cubic yard basis. If the contaminated soil will be taken to a legal landfill, this item will be bid on a per ton basis, and can be included with disposal costs.

6.1.23 **TREATMENT**  
The process of treating contaminated soils and/or water in order to reduce contaminant levels.

6.1.24 **TURNING**  
The process of bringing the undersoil to the surface at the landfarm site, and in this case, to enhance volatilization of petroleum impacted soils. The cost of additional turning will be consistent with the respective rate in the approved bid.
6.1.25 **WASTEWATER**

Water which accumulated in the excavated areas as a result of rain, high groundwater levels, or an unnatural event such as a broken water line, etc.
ATTACHMENT A

FIELD WORK PLAN WORKSHEET
PETROLEUM STORAGE TANK RELEASE TRUST FUND
EXCAVATION FIELD WORK PLAN WORKSHEET

KDHE Site Name: ____________________________ KDHE Project Code: ____________________________
Vendor: ____________________________ Vendor Contact: ____________________________

Instructions: This form must be completed by providing the information requested below. Do not include any attachments with this worksheet other than those described herein.

I. Site Information
Site Address: ____________________________ ____________________________ Kansas ____________________________
Legal Description: 1/4 1/4 1/4 1/4 Section ______ Township ______ Range ______ E/W

II. Excavation Information
Check the work to be conducted per the Site Specific Information Sheet:

________________________ Excavation ____________________________ Landfill ____________________________ Landfarm ____________________________ Backfill ____________________________ Tank Removal

List the requested information where applicable:

A) Excavation Activities
Excavation Equipment:

________________________________________________________

________________________________________________________

Equipment used for Loading and Transporting contaminated soils (include capacity of truck beds):

________________________________________________________

________________________________________________________

B) Disposal Information
1) Disposal of contaminated soils at a landfarm site:
Legal Description of the landfarm site:

1/4 1/4 1/4 1/4 1/4 Section ______ Township ______ Range ______ E/W

Property owner name & phone number:
Address, City:
Other helpful directions:
Equipment used for berm preparation at the landfarm site:

Equipment used for spreading and turning contaminated soils at the landfarm site:

Method of turning contaminated soil:

2) Disposal of contaminated soils at the site:
Equipment used for berm preparation at the site:

Equipment used for spreading and turning contaminated soils at the site:

Method of turning contaminated soil:

3) Disposal of contaminated soils at a legal landfill:
Is disposal of contaminated soils at a landfarm location or at the site an option? Yes No
Is the legal landfill within the county where the contaminated soils originated? Yes No
State the name of the legal landfill, county where it's located, the landfill's contact person and phone number:

Landfill Name and County ____________________________ Contact Person ____________________________ Phone Number ____________________________
C) Sampling of Contaminated Soils

Equipment used for field screening soils:

---

Equipment used for collecting grab soil samples for lab analyses:

---

KDHE Certified Laboratory:

Constituents to be analyzed at the lab: (circle all that apply)

<table>
<thead>
<tr>
<th>BTEX</th>
<th>1,2 DCA</th>
<th>Naphthalene</th>
<th>MtBE</th>
<th>EDB</th>
<th>LRH</th>
<th>MRH</th>
<th>HRH</th>
<th>Total Lead</th>
</tr>
</thead>
</table>

List method numbers: ____________________________

III. Backfill Information

1) List the type and expected volume of approved backfill material.

---

2) Backfill specifications include materials, loading, transporting, off-loading and compaction. List equipment used in these processes.

---

IV. Site Maps and Photos

Note: All maps and photos must include a scale, north arrow and legend.

1) Attach a copy of the USGS 7.5 minute quadrangle map, scale 1:24,000, which depicts the general site location and a one mile radius surrounding the site. The site must be highlighted or outlined.

2) Attach a copy of the USGS 7.5 minute quadrangle map, scale 1:24,000, which depicts the landfarm location. If the landfarm is visible and can be highlighted on the general site location map, this second map is not necessary.

3) Prepare and submit with this worksheet a site map in accordance with and containing the following:
   a) Scale such that 1 inch is less than or equal to 50 feet.
   b) Site property boundaries, buildings, driveways, other fixed objects, and street names.
   c) Site map must depict the site with the general use of surrounding properties identified; i.e. residential, industrial, business (indicate what type - fast food, service stations, etc.).
   d) Tanks, lines and pump islands, currently or formerly located at the site.
   e) Outline the proposed area(s) to be excavated.
   f) If contaminated soils are to be treated onsite, outline the area where the soils will be taken for treatment.

4) Photographs of the site:
   a) Two photos of the entire facility taken from two distinctly different directions, including buildings, overhead lines, tank systems and any remedial systems.
   b) Two photos of the tank basin and/or any other area to be excavated.

V. Field Personnel / Health and Safety Plan Information

1) List below the personnel and any subcontracted firms that will be involved in the excavation and treatment activities. Indicate each individual's name and position / title. If resumes documenting education and experience have not been provided with the original bid package for all those listed, submit this information with this worksheet.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position / Title</th>
<th>Name</th>
<th>Position / Title</th>
</tr>
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</tbody>
</table>

2) Indicate whether a Health and Safety Plan has been prepared for this scope of work (must be available during field work):

- [ ] Yes
- [ ] No

3) Site visit conducted by: ____________________________ Work plan preparation completed by: ____________________________
ATTACHMENT B

BUREAU OF WASTE MANAGEMENT INFORMATION
Kansas Statutes Annotated 65-3407c.

(a) The secretary may authorize persons to carry out the following activities without a solid waste permit issued pursuant to K.S.A. 65-3407, and amendments thereto:

(1) Dispose of solid waste at a site where the waste has been accumulated or illegally dumped. Disposal of some or all such waste must be identified as an integral part of a site cleanup and closure plan submitted to the department by the person responsible for the site. No additional waste may be brought to the site following the department's approval of the site cleanup and closure plan.

(2) Perform temporary projects to remediate soils contaminated by organic constituents capable of being reduced in concentration by biodegradation processes or volatilization, or both. Soil to be treated may be generated on-site or off-site. A project operating plan and a site closure plan must be submitted to the department as part of the project approval process.

(b) The secretary shall consider the following factors when determining eligibility for an exemption to the solid waste permitting requirements under this section:

(1) Potential impacts to human health and the environment.

(2) Urgency to perform necessary work compared to typical permitting timeframes.

(3) Costs and impacts of alternative waste handling methods.

(4) Local land use restrictions.

(5) Financial resources of responsible parties.

(6) Technical feasibility of proposed project.

(7) Technical capabilities of persons performing proposed work.

(c) The secretary may seek counsel from local government officials prior to exempting activities from solid waste permitting requirements under this section.
Application to Landfarm Petroleum Contaminated Soils Without a Permit Authorized by K.S.A. 65-3407c(a)(2)

SECTION 1. FACILITY INFORMATION (Site where contaminated soil was generated)

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>City</td>
</tr>
<tr>
<td>County</td>
<td>State Zip Code</td>
</tr>
<tr>
<td>Mailing Address</td>
<td>Contact Name Phone</td>
</tr>
</tbody>
</table>

Legal Location of Soil Source

1/4 Section Township Range County

Coordinate Location in degrees decimal: Latitude , Longitude

SECTION 2. APPLICANT INFORMATION (Owner/Operator, General or Sub-Contractor performing the work)

<table>
<thead>
<tr>
<th>Individual or Company Name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>City</td>
</tr>
<tr>
<td>County</td>
<td>State Zip Code</td>
</tr>
<tr>
<td>Contact Name</td>
<td>Phone</td>
</tr>
</tbody>
</table>

Applicant Type (check all that apply)  

Will you be performing the actual treatment?  Yes  No, If no who will be providing the actual treatment.

<table>
<thead>
<tr>
<th>Individual or Company Name</th>
<th>Contact Name Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>BER Contact</td>
<td>Project Number</td>
</tr>
</tbody>
</table>
SECTION 3. LANDFARM TREATMENT SITE INFORMATION (Where soil will be treated)

The property owner of the proposed landfarm location must read and sign page 5 of this application titled Landfarm Property Owner Consent Form. The signed form must be submitted to the Bureau of Waste Management before any landfarming project will be approved.

Property Owner’s Name______________________________________________________________

Mailing address________________________________________ City__________________________

County__________________ State____________ Zip Code___________________________

Legal location of the landfarm site___________________________________________________

1/4 Section Township Range County

Coordinate Location in degrees decimal: Latitude_________________, Longitude____________

Current land use of the proposed treatment site (check all that apply)

Agriculture_____ Commercial_____ Industrial_____ Residential_____ Other__________________

Current land use of surrounding area (check all that apply)

Agriculture_____ Commercial_____ Industrial_____ Residential_____ Other__________________

Are there any land use restrictions, zoning requirements, or local permits required? Yes__ No__

If yes, please describe and attach copies of any documentation._____________________________

_______________________________________________________________________________

Distance and direction to the nearest residence and/or business.____________________________

_________________________________________________________________________________

Are there any water wells located within a 2 mile radius of the proposed treatment site? Yes___ No___

If yes, please indicate their location on the required site location map.

What is the depth to groundwater?___________ Direction of groundwater flow (if known)__________
SECTION 4. CONTAMINATED SOIL INFORMATION

How many cubic yards of contaminated soil do you propose to remediate?____________________

Type of contaminated soil (sand, silt, clay, silty clay, etc...)._____________________________________

What type of contaminant is the soil impacted with (check all that apply)

Gasoline____ Diesel Fuel_____ Waste/Used Oil ____ Solvents ____ Other (specify)_____________

In addition to the above information, contaminated soil must be analyzed by a Kansas certified lab prior to transportation of the soil to the proposed landfarm location. In general all soils contaminated with petroleum products should be analyzed for BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes), 1,2-Dichloroethane and total lead. Soils contaminated with gasoline and or diesel fuel should also be analyzed for TPH by the OA-1 and OA-2 test methods respectively. Other types of contamination such as waste/used oil, crude oil, and solvent contamination may require additional testing. Questions regarding which test are required should be addressed to KDHE Bureau of Waste Management.

SECTION 5. LANDFARM OPERATING PLAN

The landfarm operating plan is a separate document you will attach to this application that demonstrate the applicants understanding and ability to manage the landfarming activities. At a minimum all plans should contain the following information. Please note that all landfarms which occur off-site from the contamination site will have target clean up levels of non-detect or a level equal to natural background levels, and will not be based on the KDHE RSK-MANUAL for TPH (GRO) or (DRO). The KDHE Bureau of Waste Management should be contacted prior to determination of background levels. Also, landfarming without a permit will only be authorized for temporary projects, which means all remediation plans should be designed to reduce contamination levels to the target level within two years.

1. **Background**: Describe how the contaminated soil was generated (Spill, Leaking UST, Pipeline break etc...) and explain any current KDHE involvement with the project, giving the names of KDHE representatives already involved.

2. **Site Map**: The site map should show the landfarms orientation and location with respect to nearby residential housing, commercial buildings, waters of the state, and domestic water wells within 2 mile of the site. This map should also be detailed enough that it could be used to locate the landfarm or contain additional directions to the site from the nearest highway. As a general guide landfarms should not be located within: 500 feet of a residence, business, domestic or public water supply; 200 feet from waters of the state and property lines; and 100 feet from a drainage swale, ditch, or other physical feature which channels overland flow.

3. **Site Preparation**: Describe the initial condition and use of the landfarm site and how the landfarm will be constructed; including details about grading, run-off/run-on control measures, and the depth at which contaminated soils will be placed etc...
4. **Treatment and Management Procedures:** The treatment and management procedures should describe how and when the contaminated soils will be remediated. It should also detail the management objectives, method of evaluating those objectives, frequency of evaluation, and the actions to be taken to achieve the stated objectives. Management objectives typically include maintaining the optimum moisture content, pH, nutrient level, and oxygen level to promote microbial growth and subsequent degradation of the contaminant.

For soils impacted with gasoline only, turning the soil to aerate and volatilize the gasoline is a proven acceptable treatment method for attaining the non-detect remedial goal. Typically diesel fuel and other heavier hydrocarbons can not attain the target cleanup level by aeration alone. These landfarms require treatment and management procedures that attempt to optimize and enhance the growing environment of the biodegrading bacteria. In addition to providing oxygen by turning the soil, managing the landfarm to optimize moisture content, pH, and nutrient levels greatly increases the rate and extent of biodegradation, and should be incorporated into most landfarming projects other than those involving gasoline only.

It’s important to remember that landfarming without a permit is considered a temporary biodegradation process which employs methods meant to accelerate the natural degradation of the contaminants.

5. **Monitoring Plan:** How will you monitor the progress of the biodegradation process. In general the information you provide should include: frequency of sampling, method of sampling, number of samples, sample locations, parameters to be analyzed for, and analytical methods used.

---

**SECTION 6. LANDFARM CLOSURE PLAN**

The landfarm closure plan is a separate document you will attach to this application. At a minimum it should contain the following information.

1. **Closure Activities:** Detail what will be done to close the site and return it to its original condition, such as regrading, seeding, or removal of the soil. Describe the proposed use of the land/soil once contamination has been reduced to acceptable levels. Explain the over all steps that will be taken to close the site.

   Also, as part of the closure activities the KDHE Bureau of Waste Management must be notified at least 10 days prior to confirmation sampling so that a KDHE representative may be present to monitor the sampling and take split samples if so desired.

2. **Confirmation Sampling:** Describe how closure confirmation samples will be taken include: method of sampling, number of samples, sample locations, parameters to be analyzed for, and analytical methods to be used. Confirmation sampling should be representative of the entire landfarm and should, at a minimum, be sampled at a rate of 1 sample per 300 cubic yards of soil. All soil samples to be tested for volatile contaminants should be taken as discrete grab samples. Samples to be tested for semi volatile and non-volatile contaminants may be composite samples.
Landfarm Property Owner Consent Form
(To be developed)
SECTION 7. CHECK LIST

Please make sure the following items are complete and attached before submitting this application.

- Site Map
- Analytical results from a Kansas certified lab
- Landfarm Operating Plan
- Landfarm Closure Plan
- Landfarm Property Owner Consent Form
EXHIBIT 1

SITE SPECIFIC INFORMATION
EXHIBIT 2

PROJECT BID PROPOSAL SHEETS