

Hazardous Materials in Project Development Statewide Consultant Contracts

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Request for Estimates

The following examples of “Request for Estimate for Professional Services” can be used to communicate the services requested by TxDOT to the consultants in Statewide Environmental Engineering Consultant contracts or Purchase of Services contracts in the case of Asbestos and Lead-Based Paint Services. Districts may utilize these examples, modify them or create their own Requests for Estimates.

Portions of these examples may not be appropriate for every transportation project or every district. They should be edited to incorporate project-specific information.

The Environmental Affairs Division, Pollution Prevention and Abatement Branch (ENV-PPA) staff are available to provide more information about the use of these sample requests or to provide assistance to the district in developing project-specific requests for estimates.

The following draft requests for estimates are provided in this chapter:

- ◆ TxDOT Initial Site Assessment
- ◆ Asbestos and Lead-Based Paint Services for Renovation (Enhancement Projects)
- ◆ Asbestos Services for Demolition (Right-of Way Improvements)
- ◆ Petroleum Storage Tank Removal Oversight
- ◆ Environmental Site Investigation and Preventive Action
- ◆ Environmental Engineering Services during Construction (Anticipated and Unanticipated Contamination).

TxDOT Initial Site Assessment

Introduction:

PROPOSAL # _____
REQUEST FOR ESTIMATE FOR PROFESSIONAL SERVICES
(TxDOT INITIAL SITE ASSESSMENT)

This estimate is to be made, prior to the issuance of a Work Authorization through the Texas Department of Transportation, in conjunction with the [District Name] District, [District Section Name] Section, for the following outlined items. Statewide Consultant refers to [Name of Statewide Consultant firm].

Project Information:

Transportation project identification (CSJ number):
Highway, Limits, City, County:
Completion time frame or right of entry expiration date:
Responsibility for right of entry agreements:

TxDOT will provide available schematics, preliminary plans, ROW parcel maps, and individual site access information (contact name, telephone) when authorization is signed.

Initial Site Assessment:

The Statewide Consultant shall perform an initial site assessment to identify and determine the potential for encountering known or possible hazardous materials during project development and construction including possible environmental liability, increased handling requirements and costs, and construction worker safety in accordance with TxDOT's Hazardous Materials Guidelines. The initial site assessment shall also be in general accordance with the American Society for Testing and Materials (ASTM) Environmental Site Assessment standard practices (ASTM E 1527 and ASTM E 1528) or equivalent [i.e., satisfies "due diligence" and "appropriate inquiry" requirements under the Comprehensive Environmental Response and Compensation Liability Act (CERCLA)].

The Statewide Consultant shall determine the appropriate project-specific level of inquiry on each of the following components of an initial site assessment to be reviewed, assessed and/or documented:

1. project design and right-of-way-requirements
2. existing and previous land use
3. regulatory agency databases (list search) and files
4. site visit/field surveys
5. interviews.

Based on results of the initial site assessment, the Statewide Consultant shall determine assessment, the need for additional investigation, considerations or coordination during project development and construction. An initial site assessment report shall be prepared. A separate document shall be prepared with any recommendations. All appropriate supporting information shall be documented and furnished to the State.

Asbestos and Lead-Based Paint Services for Renovation

Introduction:

PROPOSAL # _____
REQUEST FOR ESTIMATE FOR PURCHASE OF SERVICES
(ASBESTOS AND LEAD-BASED PAINT SERVICES FOR RENOVATION)

This estimate is to be made, prior to the issuance of a Work Authorization through the Texas Department of Transportation, in conjunction with the [District Name] District, [District Section Name] Section, for the following outlined items. Service Provider refers to [Name of Service Provider].

Project Information:

Transportation project identification (CSJ number):
Highway, Limits, City, County:
Enhancement Project or Structure Location:
Square footage of each building:
Completion time frame or right of entry expiration date:
Responsibility for right of entry agreements:

[Name] will provide available schematics, preliminary plans, maps, and individual site access information (contact name, telephone) when authorization is signed.

Determine Pre-Renovation Survey Requirements: The Service Provider will perform the following to finalize the project-specific scope of work for the pre-renovation survey for lead-based paint and asbestos containing materials:

- ◆ Discuss project requirements with district contact; local public agency contact (enhancement project sponsor); and/or project manager, engineer and architect (as appropriate).
- ◆ Determine the status of plans, time frames, possible revisions or changes in proposed work.
- ◆ Review available preliminary plans, specifications and estimates.
- ◆ Determine if sufficient information is available and additional design or estimates are needed.
- ◆ Identify known or possible materials that may be disturbed, renovated or demolished.
- ◆ Determine known or possible waste streams.

Asbestos Inspection (Pre-Renovation Survey): The Service Provider will provide an asbestos inspection or survey on the structure. The intent or objective of the asbestos inspection is to:

- ◆ Satisfy both Environmental Protection Agency (EPA) National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61 and Texas Department of State Health Services (DSHS) Texas Asbestos Health Protection Rule (TAHPR), 25 TAC Chapter 295.
- ◆ Determine and report the project specific applicable license, accreditation, notification, specification, abatement and air monitoring regulatory requirements for renovation.
- ◆ Provide sufficient information for the completion of the TDH Demolition and/or Renovation 10-day notification form (PB #5).
- ◆ Provide sufficient information for the development of an asbestos abatement project design (specification), if required, without additional inspections.
- ◆ Determine and report applicable Occupational Safety and Health Act (OSHA) asbestos exposure regulations (29 CFR 1926.1101) for in all work as defined in 29 CFR 1910.12(b).
- ◆ Determine and report applicable TCEQ industrial and hazardous waste (30 TAC 335) and municipal solid waste (30 TAC 330) regulations including disposal requirements and forms.

Asbestos inspection services to be provided include but are not limited to, the following:

- ◆ Perform inspection of the affected facility or part of the facility where the renovation operation will occur.
- ◆ Determine and report location, quantity, condition, and friability or potentially friability under renovation conditions of suspected asbestos containing materials.
- ◆ Obtain and report measurements of the surface area, linear feet, and/or estimated volume, as applicable, of all asbestos containing materials.
- ◆ Obtain samples of suspect asbestos containing materials using destructive testing, if necessary.
- ◆ Analyze suspect asbestos containing material samples using the polarized light microscopy (PLM) method and report results.
- ◆ Determine if more accurate testing using the PLM point count (PLM/PC) method should be used. If the PLM dispersion staining (PLM/DS) method indicates asbestos below 10% then verification of the amount by PLM/PC is required unless the material is assumed to contain asbestos. As another example, the PLM/PC method may be used to determine whether or not abatement is required for a structure or material. If the PLM/DS method indicates asbestos below 5%, then there is a potential that the more accurate point count method may indicate asbestos below 1%.

Asbestos consulting services to be provided include but are not limited to, the following:

- ◆ Determine and report whether building(s) or structure(s) is a "public building" as defined by 25 TAC §295.32 or an NESHAP-only facility.
- ◆ Determine and report if friable asbestos or asbestos containing materials present in building may become friable during demolition.
- ◆ Assess and report whether any resilient floor covering and adhesive (mastic) in the building can be removed properly by the Resilient Floor Covering Institute (RFCI) guidelines.
- ◆ Determine and report whether non-friable asbestos containing materials exceeds quantities set forth in 40 CFR §61.145.
- ◆ Determine and report if abatement is required prior to renovation and required licenses.
- ◆ Determine and report if an asbestos specification is required prior to abatement and required licenses.
- ◆ Determine and report if third party air monitoring is required during abatement and required licenses.

Asbestos Abatement Project Design (Specification): Services to be provided include but are not limited to, the following:

- ◆ Inspection.
- ◆ Provide cost effective specifications for containment of asbestos containing materials.
- ◆ Meet signature authority requirements as outlined in 25 TAC 295.47(i).

- ◆ Provide consulting services, if required.

Additional Asbestos Consulting Services: Additional asbestos consulting services to be provided include but are not limited to, the following:

- ◆ Estimate costs for abatement.
- ◆ Prepare bid documents.
- ◆ Conduct pre-bid conference.
- ◆ Evaluate contractor proposals.
- ◆ Complete and submit the demolition/renovation notification form and/or confirm notification requirements are completed.
- ◆ Review containment prior to start of removal work.
- ◆ Provide on-site air monitoring phase contrast microscopy (PCM) during abatement work.
- ◆ Provide final report.

Lead-Based Paint (LBP) Survey: The Service Provider will provide a lead-based paint survey on the structure. The intent or objective of the lead-based paint survey is to:

- ◆ Determine and report the possible presence of lead based paint.
- ◆ Characterize and report the known or possible generated waste streams.
- ◆ Determine and identify applicable regulations.
- ◆ Develop specifications and/or provide sufficient information for the development of specifications.
- ◆ Provide sufficient information to determine the appropriate waste management and worker safety requirements.

Services to be provided include but are not limited to, the following:

- ◆ Thorough inspection of the part of the building or facility where the renovation operation will occur for the presence of suspect lead-based paint.
- ◆ Obtain representative samples to characterize the potential waste streams for disposal depending upon the removal technique required. Note: Per TCEQ Technical Guidance (RG-69 June 1994), suggested analytical testing requirements for the hazardous waste determination to disposal of construction debris contaminated with lead based paint is Toxicity Characteristic Leaching Procedure (TCLP) Inorganic. A total analysis may be used as a screen prior to TCLP procedure. If a total analysis for screening exceeds the listed limits, then TCLP must be performed and the TCLP results must not exceed the stated limits. If Total Lead exceeds 30 mg/kg, then TCLP must be performed. If disposal is required, then analytical requirements for local landfills should also be determined. Additional sampling may be required.
- ◆ Determine and report presence (concentration of lead), location, and volume of lead based waste involved in the project.

- ◆ Determine applicable OSHA regulations for lead in construction (29 CFR 1926.62). For example, depending upon the paint removal technique, demonstrate if exposures are unlikely, moderately likely, likely to exceed levels in 29 CFR 1926.62 (above 30 $\mu\text{g}/\text{m}^3$ as an 8-hour time weighted average (TWA). Note: It should be noted that Texas Department of State Health Services (DSHS) Environmental Lead Reduction Rules, 25 TAC 295.201-220, only apply to apply to "target housing", which includes most single and multi-family residences, and apartment buildings constructed before 1978. It does NOT cover non-residential public and commercial buildings.
- ◆ Determine applicable TCEQ air quality regulations. Note: For possible sandblasting methods, air quality nuisance regulations (30 TAC §101.4.) state that “No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property”.
- ◆ Determine applicable TCEQ industrial and hazardous waste (30 TAC 335) and municipal solid waste (30 TAC 330) regulations including Waste Evaluation / Classification, Containment / Disposal Requirements, Forms (TCEQ Form 0757).

Other Lead-Based Paint Services: Services to be provided include but are not limited to, the following:

- ◆ Estimate costs for abatement.
- ◆ Prepare bid documents.
- ◆ Conduct pre-bid conference.
- ◆ Evaluate contractor proposals.
- ◆ Complete and submit the demolition/renovation notification form and/or confirm notification complete.
- ◆ Submit notification fees.
- ◆ Review containment prior to start of removal work.
- ◆ Provide on-site independent third-party air monitoring during abatement using phase contrast microscopy (PCM) analysis.
- ◆ Provide final report.

Asbestos Services for Demolition

Introduction:

PROPOSAL # _____
 REQUEST FOR ESTIMATE FOR PURCHASE OF SERVICES
 (ASBESTOS SERVICES FOR DEMOLITION)

This estimate is to be made, prior to the issuance of a Work Authorization through the Texas Department of Transportation, in conjunction with the [District Name] District, [District Section Name] Section, for the following outlined items. Service Provider refers to [Name of Service Provider].

Project Information:

Transportation project identification (CSJ number):

Highway, Limits, City, County:

Right of way account number:

Parcel number(s):

Square footage of each building:

Completion time frame or right of entry expiration date:

Responsibility for right of entry agreements:

TxDOT will provide available schematics, preliminary plans, ROW parcel maps, and individual site access information (contact name, telephone) when authorization is signed.

Asbestos Inspection (Pre-Demolition Survey): The Service Provider will provide an asbestos inspection or survey on structures in the right of way prior to sale or demolition. The intent or objective of the asbestos survey is to:

- ◆ Satisfy both Environmental Protection Agency (EPA), National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61 and Texas Department of State Health Services (DSHS) Texas Asbestos Health Protection Rule (TAHPR), 25 TAC Chapter 295 for an asbestos inspection (asbestos survey).
- ◆ Determine and report the project specific applicable license, accreditation, notification, specification, abatement and air monitoring regulatory requirements for demolition (refer to TDH Demolition Flow Chart (APB#2)).
- ◆ Provide sufficient information for the completion of the TDH Demolition and/or Renovation 10-day notification form (PB #5) and meet the requirements.
- ◆ Provide sufficient information for the development of an asbestos abatement project design (specification), if required, without additional inspections.

Asbestos inspection services to be provided include, but are not limited to, the following services:

- ◆ Determine and report location, quantity, condition, and friability or potentially friability under demolition conditions of suspected asbestos containing materials.
- ◆ Obtain and report measurements of the surface area, linear feet, and/or estimated volume, as applicable, of all asbestos containing materials.
- ◆ Obtain samples of suspect asbestos containing materials using destructive testing, if necessary. Samples of suspect ACM concrete slabs are also to be obtained.
- ◆ Analyze suspect asbestos containing material samples using the polarized light microscopy (PLM) method and report results.

- ◆ Determine if more accurate testing using the PLM point count (PLM/PC) method should be used. If the PLM dispersion staining (PLM/DS) method indicates asbestos below 10% then verification of the amount by PLM/PC is required unless the material is assumed to contain asbestos. As another example, the PLM/PC method may be used to determine whether or not abatement is required for a structure or material. If the PLM/DS method indicates asbestos below 5%, then there is a potential that the more accurate point count method may indicate asbestos below 1%.

Asbestos consulting services to be provided include, but are not limited to, the following services:

- ◆ Determine and report whether building(s) or structure(s) is a "public building" as defined by 25 TAC §295.32 or an NESHAP-only facility.
- ◆ Determine and report if friable asbestos or asbestos containing materials present in building may become friable during demolition.
- ◆ Assess and report whether any resilient floor covering and adhesive (mastic) in the building can be removed properly by the Resilient Floor Covering Institute (RFCI) guidelines.
- ◆ Determine and report whether non-friable asbestos containing materials exceeds quantities set forth in 40 CFR §61.145.
- ◆ Determine and report if abatement is required prior to demolition and required licenses.
- ◆ Determine and report if an asbestos specification is required prior to abatement and required licenses.
- ◆ Determine and report if third party air monitoring is required during abatement and required licenses.

Asbestos Abatement Project Design (Specification): The intent or objective of the Asbestos Abatement Project Design (Specification) is to satisfy both Environmental Protection Agency (EPA), National Pollutant Discharge Elimination System (NESHAP), 40 CFR Part 61 and Texas Department of State Health Services (DSHS) Texas Asbestos Health Protection Rule (TAHPR), 25 TAC Chapter 295 requirements.

Services to be provided include, but are not limited to, the following:

- ◆ Inspection.
- ◆ Design cost effective containment and removal technologies of asbestos containing materials.
- ◆ Meet signature authority requirements as outlined in 25 TAC 295.47(i).
- ◆ Provide consulting services, if required.

The following additional services are requested:

- ◆ Estimate costs for abatement.
- ◆ Prepare bid documents.
- ◆ Conduct pre-bid conference.

- ◆ Evaluate contractor proposals.
- ◆ Complete and submit the demolition/renovation notification form and/or confirm notification requirements are completed.
- ◆ Submit notification fees.

Air Monitoring: During abatement, the following services are requested:

- ◆ Review containment prior to start of removal work.
- ◆ Provide on-site independent third-party air monitoring during abatement using phase contrast microscopy (PCM) analysis.
- ◆ Provide final report.

Petroleum Storage Tank Removal Oversight

Introduction:

PROPOSAL # _____
 REQUEST FOR ESTIMATE FOR PROFESSIONAL SERVICES
 (ASBESTOS SERVICES FOR DEMOLITION)

This estimate is to be made, prior to the issuance of a Work Authorization through the Texas Department of Transportation, in conjunction with the [District Name] District, [District Section Name] Section, for the following outlined items. Statewide Consultant refers to [Name of Statewide Consultant firm].

Project Information:

Transportation project identification (CSJ number):
 Highway, Limits, City, County:
 Right of way account number:
 Underground storage tank(s) location:
 Parcel number(s):
 Completion time frame or right of entry expiration date:
 Responsibility for right of entry agreements:

TxDOT will provide available schematics, preliminary plans, ROW parcel maps, and individual site access information (contact name, telephone) when authorization is signed.

Petroleum Storage Tank Removal Oversight: The Statewide Consultant will perform petroleum storage tank removal oversight. [TxDOT/Statewide Consultant] will contract with a TCEQ registered Underground Storage Tank Contractor with a licensed Type B Underground Storage Tank Removal On-site Supervisor.

Services to be provided include, but are not limited to, the following:

- ◆ Estimate costs.
- ◆ Prepare bid documents.

- ◆ Conduct pre-bid conference.
- ◆ Evaluate contractor proposals.
- ◆ Monitor tank removal.
- ◆ Monitor over-excavation.
- ◆ Determine and report any release.
- ◆ Determine actions to halt and prevent future releases of regulated substances.
- ◆ Determine reasonably necessary actions to protect public health and environmental safety.

Environmental Site Investigation and Preventive Action

Introduction:

PROPOSAL # _____
 REQUEST FOR ESTIMATE FOR PROFESSIONAL SERVICES
 (ENVIRONMENTAL SITE INVESTIGATION AND PREVENTIVE ACTION)

This estimate is to be made, prior to the issuance of a Work Authorization through the Texas Department of Transportation, in conjunction with the [District Name] District, [District Section Name] Section, for the following outlined items. Statewide Consultant refers to [Name of Statewide Consultant firm].

Project Information:

Transportation project identification (CSJ number):
 Highway, Limits, City, County:
 Completion time frame or right of entry expiration date:
 Responsibility for right of entry agreements:
 Proposed location of geotechnical borings or soil cores:
 Proposed location and depth of borings, columns, piers or drilled shafts:
 Proposed location and depth of excavations (vertical alignment/profile changes, cuts, trenches and/or storm sewers):
 Anticipated dewatering requirements and depth to groundwater level:
 Proposed location of proposed right-of-way acquisition and easement requirements:
 Location and type of known encroachments:
 Proposed location, depth and type of utility and pipeline adjustments:
 Timeframe and contracting decisions for any proposed utility adjustments (prior to construction, during construction, joint bids):

Available schematics, plans, maps, assessment and investigation reports, location of geotechnical borings or soil cores, and associated drilling logs are attached. TxDOT will provide individual site access information (on-site contact name, telephone) when authorization is signed.

Environmental Site Investigation: The Statewide Consultant will perform an environmental site investigation in the right of way and/or proposed right-of-way. The main intent or objective of the environmental site investigation is to:

- ◆ Determine if contamination is present within the existing or proposed right-of-way and whether it would be encountered during proposed construction.
- ◆ Determine contaminant concentrations for comparison to acceptable action levels or target concentrations.
- ◆ Determine closure requirements of regulated facilities or contaminated areas.
- ◆ Determine special considerations for worker health and safety during construction.
- ◆ Develop cost-effective preventive action plan(s) to handle contamination prior to or during construction.

Environmental site investigation services to be provided include, but are not limited to, the following services:

- ◆ Develop a cost-effective sampling and analysis plan (e.g., limited number of mobilizations, location of borings, depth of borings, hydrogeologic or hydraulic testing, etc.).
- ◆ Identify and characterize the soil, groundwater and possible vapor contamination through sampling and analytical testing (e.g., groundwater recovery rates, chemicals of concern, etc.).
- ◆ Determine limits (horizontal and vertical extent) of contamination that may be encountered during construction.
- ◆ Assess worker safety and public health exposure concerns.
- ◆ Determine closure requirements of regulated facilities or contaminated areas.

Preventive Action: If required prior to and/or during construction, the main intent or objective of the preventive action plan is to minimize or avoid:

- ◆ adverse worker or public health exposure
- ◆ further releases of the contamination
- ◆ adverse impact to off-site contamination or corrective action activities during construction.

The services to be provided by the Statewide Consultant include, but is not limited to, the following:

- ◆ Recommend cost-effective preventive action options.
- ◆ Develop monitoring/testing requirements during construction.
- ◆ Determine requirements for prime construction contractor to continue or resume work.

- ◆ Develop plans, specifications and estimates to complete portions of the construction within contaminated environments (e.g., plume capture, dewatering systems, groundwater treatment or filtration systems; ventilation systems; contaminated material handling, reuse and/or disposal options; permitting; etc.).

Environmental Engineering Services during Construction

Introduction:

PROPOSAL # _____
REQUEST FOR ESTIMATE FOR PROFESSIONAL SERVICES
(ENVIRONMENTAL ENGINEERING SERVICES DURING CONSTRUCTION)

This estimate is to be made, prior to the issuance of a Work Authorization through the Texas Department of Transportation, in conjunction with the [District Name] District, [District Section Name] Section, for the following outlined items. Statewide Consultant refers to [Name of Statewide Consultant firm]. TxDOT Engineer refers to the Executive Director of the Department or his authorized representative.

Project Information:

Transportation project identification (CSJ number):
Highway, Limits, City, County:
Completion time frame or right of entry expiration date:

Available schematics, preliminary plans, maps, and assessment and investigation reports are attached or will be provided at the project site.

[TxDOT/Prime Roadway Contractor/Statewide Consultant] will contract with specialty contractors (e.g., TCEQ registered Underground Storage Tank Contractor with a licensed Type B Underground Storage Tank Removal On-site Supervisor). [TxDOT/Prime Roadway Contractor/Statewide Consultant] will provide personnel and equipment for testing, removal and disposition (e.g., drilling, soil excavation, monitoring wells, filtration systems, transportation, vacuum trucks, etc.).

Anticipated: This section covers hazardous materials/waste identified during earlier phases of the project development process where preventive action has been incorporated into the project and/or provided for in the Plans, Specifications & Estimates (PS&E). The services to be provided by the Statewide Consultant include, but is not limited to, assisting TxDOT during construction with the following:

- ◆ Assist TxDOT with coordination between the prime construction contractor, subcontractors, specialty contractors, regulatory agencies, and/or responsible parties.
- ◆ Assist TxDOT with the implementation of provisions for worker and public safety as well as handling and disposal of hazardous materials or waste.
- ◆ Assist TxDOT with the implementation of monitoring and verifying provisions for preventive action aspects of the contract.

- ◆ Assist TxDOT with documentation of the actions taken for the sub-items related to preventive action.

Unanticipated (Emergency): This section covers unanticipated hazardous materials/waste encountered during construction. The Statewide Consultant is to fax a completed and signed site-specific proposal and work authorization and for an initial site visit/assessment to the TxDOT work authorization project manager. The Statewide Consultant is to respond to the site as soon as possible within at least [24 or 48] hours notice to assess environmental concerns. A supplemental work authorization proposal is to be submitted preferably no later than 48 hours after initial site visit and before exceeding the work authorization amount or expiration date. The Statewide Consultant sends the signed original work authorization to Consultant Services Office (CSO) within five (5) business days from the date of the faxed copy.

Services to be provided by the Statewide Consultant may include, but is not limited to, assisting TxDOT with the following activities:

- ◆ recommend procedures to secure the site to protect workers and the public
- ◆ identify and notify responsible parties to arrange for preventive action and/or cost recovery
- ◆ determine applicable regulations
- ◆ notify the proper authorities
- ◆ determine the worker safety and public exposure concerns
- ◆ characterize the soil, groundwater and possible vapor contaminant(s) through field sampling, screening, and/or analytical testing
- ◆ determine if action levels or recommended target concentrations are exceeded
- ◆ oversee the removal of underground storage tanks
- ◆ develop and implement hazardous materials/waste management (removal and disposition) measures
- ◆ determine requirements for the prime construction contractor to resume work following suspension
- ◆ document activities.

Staffing Guidance

Excerpts from the TCEQ Reimbursable Cost Guidelines and Texas Board of Professional Engineers Policy Advisory and letters have been re-formatted for this guidance document. TxDOT makes no claims, promises or guarantees about the accuracy, completeness or adequacy of this information. For official copies of the reimbursable cost guidelines document, contact the TCEQ at P.O. Box 13087, Austin, TX 78711-3087. The information can also be downloaded from the TCEQ web site at:

<http://www.tceq.state.tx.us/waste/pst/reimbursement/download.htm>. The Texas Board of Professional Engineers can be contacted at P.O. Drawer 18329, Austin, TX 78760-8329 (mailing address) and <http://www.tbpe.state.tx.us> (web page).

Staffing Guidance

TCEQ utilizes the Reimbursable Cost Guidelines to evaluate the costs of activities and equipment used in assessment and corrective action of leaking petroleum storage tank sites (30 TAC §334.309 regarding Reimbursable Costs and 30 TAC §334.560 regarding Reimbursable Cost Guidelines for the Petroleum Storage Tank Reimbursement Program).

Although the services may not be regulated by TCEQ Reimbursable Cost Guidelines, the following staffing guidance (Table F-2-1) may still apply to many services (except asbestos) provided by Statewide Environmental Engineering Consultant contracts.

General Staffing Guidance

Personnel and Qualifications	Task Descriptions
<p>Principal (PR) Administrative and/or professional head of the organization. Responsible for conceiving and executing plans and functions of the organization. Directs the professional staff. Normally has a financial interest in the company as partial owner, major investor, or major stockholder. Charges an extremely limited number of hours per site as the Principal. This position should never bill field hours.</p>	Expert testimony Legal strategies Depositions Organizational oversight
<p>Principal Engineer/Geologist/Hydrogeologist III (P3) A Principal must be professionally registered when applicable, be in compliance with Subchapter J rules, have an advanced engineering or science degree, and at least ten years experience in conducting corrective action. Administrative and/or professional head of an organization with authority and responsibility for conceiving and executing plans and functions of the organization and directing a professional staff. Charges a very limited number of hours per site, as in review of the project documents. A Principal should almost never bill field work.</p>	Expert testimony Program management Project oversight Depositions Reviews most complex sites Develops or advances new technology innovations

<p>Senior Engineer/Geologist/Hydrogeologist II (P2) Typically requires an advanced degree. Requires professional registration when applicable, 8 years of experience in technical or managerial roles, and compliance with Subchapter J. Serves as senior technical leader for environmental remediation projects of medium to large scope and/or complexity and has developed substantial expertise in the field of practice. May supervise or direct the work activities of lower level professionals and technicians. Will perform very limited field work, and have limited involvement in projects. Duties typically include reviewing reports, developing strategies, and attending client and/or Agency meetings. Responsible for approving designs, reports, plans, and specifications before submittal to clients or regulatory agencies. If significantly involved in a highly technical project, should have substantial technical expertise directly related to the project.</p>	<ul style="list-style-type: none"> Program management Project oversight Project management Aquifer characterization Reviews technical reports Reviews RAPs Data review and analysis Prepares proposals
<p>Associate Engineer/Geologist/Hydrogeologist I (P1) Typically requires a Bachelor's degree in engineering, geology, hydrogeology, or related science and professional registration when applicable. Complies with Subchapter J, and has 5 to 7 years of experience or an advanced degree and more than 4 years of experience. Leads and supervises teams of lower level personnel, but would have a limited number of hours charged to each site, and only a small percentage of total field hours. Generally supervises Project Managers and oversees several projects. May prepare proposals. Under general direction, prepares environmental programs and plans specifications for site remediation activity.</p>	<ul style="list-style-type: none"> Project management Engineering/remedial equipment design Aquifer characterization Review technical reports Review remedial action plans Data review & analysis Report preparation Prepare proposals Site inspection (occasional)
<p>Project Manager (PM) Typically possesses a bachelor of science degree in engineering, geology, hydrogeology, or a directly related field. Serves as manager for entire projects. Complies with Subchapter J and has at least three years of experience in the environmental field. Under general supervision, prepares environmental programs and plans specifications for site remedial activities. Is responsible for gathering field data and is competent at data analysis. Serves as on-site technical expert and may do hydrological site characterizations, supervise hydraulic tests, and write sections of reports.</p>	<ul style="list-style-type: none"> Project management Data review and analysis Report preparation Report review Engineering/equipment design On-site supervision Workplan preparation Site assessment planning Field work planning Site inspection (periodic) Obtains permission for off-site access
<p>Staff Engineer/Geologist/Hydrogeologist (SF) Requires a bachelor's degree in engineering, geology, hydrogeology, or related science and one to three years of experience in the environmental field. Works under supervision to perform routine tasks related to environmental remediation system design and aquifer testing. Must be able to conduct assessment and remedial activities including drilling and monitoring well installation, sampling, and compiling data. Must have knowledge of QA/QC procedures and protocol. This position will normally be highest in the number of hours billed to field work.</p>	<ul style="list-style-type: none"> Report preparation Field work preparation/planning Supervises site assessment activities and overexcavation Site reconnaissance and mapping Remedial system installation Limited data review and analysis Obtains permission for off-site access Monitoring activities

<p>Risk Assessor / Toxicologist Requires a bachelor's degree (or advanced degree) in toxicology,, pharmacology, or a closely related field and 5-7 years of experience in the field of environmental risk assessments. Performs evaluations to determine potential health risks associated with exposure to environmental contaminants, develops recommendations for media-specific cleanup levels and evaluates the adequacy of data collected for use in risk assessments.</p>	<p>Data review and analysis Develop risk evaluation Developr recommendations for media-specific cleanup levels Report preparation</p>
<p>Environmental Scientist (ES) Typically requires a degree in biology, chemistry, microbiology, or related environmental science degree and 2-6 years of related experience. An individual with an advanced degree should have 2 years of related experience. Performs assignments related to site assessments and bioremediation projects, risk analysis methodologies, and analytical data reduction.</p>	<p>Data review and analysis Bioremediation feasibility studies Report preparation and overview Report review Onsite supervision Site assessment planning</p>
<p>Health Scientist (HS) Typically requires a degree in Industrial Hygiene, Toxicology, or a related health science degree, and requires 1-3 years of related experience. Ensures compliance with of field service operations with OSHA safety standards. Addresses public health concerns.</p>	<p>Health and safety coordinator Develops site safety plan Periodically oversees health and safety monitoring</p>
<p>Field Engineer/Geologist/Hydrogeologist (FD) Entry level position requiring a degree in engineering, geology, hydrogeology, or related science and less than a year of experience. Under close supervision, performs routine field tasks related to environmental projects including drilling and monitoring well installation, sampling, site layout and geologic mapping, writing field notes, and basic analysis.</p>	<p>Field work preparation Assist in site assessment activities Site reconnaissance & mapping Remedial system installation Limited data review and analysis Monitoring and sampling Supervise overexcavation</p>
<p>Technician III (T3) Typically requires a high school diploma, certified or licensed trades-person, or an Associates degree. Requires more than 4 years of experience in the environmental field. Responsible for general supervision of the installation, maintenance, and repair of on-site equipment. Collects samples and maintains operating logs.</p>	<p>Field work preparation Operation & maintenance of equipment Well development & sampling Soil Sampling Waste handling Remedial system installation Limited contractor supervision Free product (PSH) removal Monitoring</p>
<p>Technician II (T2) Typically requires a high school diploma. Requires 2 to 4 years of on-the-job training. Under appropriate supervision, performs routine labor tasks associated with on-site installation, maintenance, and repair of remediation equipment. Bails wells and collects soil and groundwater samples.</p>	<p>Field work preparation Operation & maintenance of equipment Well development & sampling Soil Sampling Waste handling PSH removal Monitoring</p>
<p>Technician I (T1) Typically requires a high school diploma. Entry level position, under close supervision. Performs routine labor associated with system installation, maintenance and repair of machinery, monitoring, and sampling.</p>	<p>Operation and maintenance of equipment Well development and sampling Soil sampling PSH removal Monitoring</p>

<p>Draftsperson II (D2) Typically requires a high school diploma. Requires 4 to 8 years of experience or two years of related college and more than one year of experience. Generally requires a Technical Drawing Certificate, and advanced drafting skills such as Computer Aided Drafting (& Design) operations.</p>	<p>Advanced drafting CAD/CADD work Cartography</p>
<p>Draftsperson I (D1) Typically requires a high school diploma with up to 4 years of experience. Generally requires a Technical Drawing Certificate and some familiarity with Computer Aided Drafting. Performs entry to mid-level drafting such as minor edits to existing CAD or board drawings.</p>	<p>Mid-level drafting CAD editing</p>
<p>Word Processor (WP) Operates computer for word processing, spreadsheets, and statistical typing, correspondence report generation, etc. Higher billing rates imply experienced, efficient work.</p>	<p>Spreadsheets Report generation Word processing</p>
<p>Clerical (CL) General office work, typing, and filing.</p>	<p>Typing Filing General secretarial Document reproduction</p>

Scientific and Engineering Services

Table F-2-2 provides a summary of the scientific and engineering services for Leaking Petroleum Storage tank corrective action developed in a Memorandum of Agreement between TCEQ and the Texas State Board of Registration (Policy Advisory 10-95-A). The table also includes a summary of the activities that must be performed personally or under the direct supervision of a licensed Texas professional engineer according to John R. Speed, P.E., Executive Director, Texas State Board of Registration for Professional Engineers in a letter to James S.H. Sher, P.E., TCEQ Superfund Engineering Section dated July 11, 1996.

Scientific and Engineering Professionals

Geological and other Non-Engineering Services	Engineering Services
<p>LPST Emergency Response/Temporary Abatement Measures: Actions required to mitigate an actual or threatened release of a regulated substance in order to protect public health and safety or the environment from immediate harm. Examples: interceptor trenches, ventilation fans, excavation.</p>	<p>NA</p>
<p>LPST Site Assessment: Any data acquisition and interpretation necessary to characterize the hydrogeological conditions at a site. This includes definition of the magnitude and extent of contamination, as well as contaminant fate and transport analysis. Examples: monitoring wells, direct push surveys, aquifer tests.</p>	<p>LPST Engineered Wellhead Protection</p>

LPST Risk Assessment: Use of risk concepts and procedures to determine target health based concentrations of contaminants in soil, water and air. Evaluations are based on PST/RBCA guidelines	NA
NA	Superfund Feasibility Study and Report prepared under the Presumptive Remedies Guidance Document for Soils at Texas State Superfund Sites.
NA	LPST Remedial Action Plan Design: Data evaluation or design for remedial action plan development. Examples: selection and evaluation of appropriate corrective action technology (ies) and preparation of plans and specifications. Superfund Design Concept Memorandum
Superfund Addendum to Bid Documents (provided no engineering is involved).	NA
LPST System Installation: Remediation system installed under engineering oversight. Superfund Consultant's Recommendation for Payment of Contractor's Pay Request (provided no direct supervision of engineering construction s involved).	LPST Remedial Action Oversight: System installation, operation and maintenance, under the observation and determination of general conformance with plans by a professional Engineer. Superfund Construction Oversight: Change Orders or Clarification of Contract Document Requirements. Evaluation, Acceptance and/or Rejection of Contractor's Submittals, shop drawings, etc. Evaluation and Recommendation to TNRCC Regarding Substitutions. Consultant's opinion. Issuance of Defective Work Notices to the Contractor. Periodic Reports to the TNRCC on Progress and Quality of the Contractor's Work.
LPST Operation and Maintenance: Qualified technicians perform regular and timely site visits to gather data about the remediation system. Examples: Influent/Effluent samples, pressure readings.	LPST Remedial Action Evaluation: Site data are evaluated to determine progress, efficiency and efficacy of the remediation system. Data are reviewed and system adjustments made to optimize performance. Superfund Groundwater Remediation Evaluation and Recommendations.
LPST Monitoring and Evaluation: Data are acquired and evaluated to determine site status. Monitoring is done through a site's history. Examples: Monitoring prior to site assessment, monitoring to confirm closure.	NA
NA = Not Applicable	

Example Cost Estimate

Example Cost Estimate					
TASK	TASK/ITEM DESCRIPTION	QUANTITY	RATE		AMOUNT
			UNIT COST	UNITS	
1	Task I Utility Clearance				
	Project Manager	1	\$85.00	hr	\$85.00
	Technician III	6	\$50.00	hr	\$300.00
	Vehicle Mileage	50	\$0.31	mi	\$15.50
	Sub Total Task 1				\$400.50
2	Task 2 Field Activities				
	Principal	1	\$115.00	hr	\$115.00
	Project Manager	14	\$85.00	hr	\$1,190.00
	Technician III	14	\$50.00	hr	\$700.00
	Field Screening Equipment (FID rental)	1	\$75.00	day	\$75.00
	Field Supplies	1	\$20.00	day	\$20.00
	Vehicle	50	\$0.31	mi	\$15.50
	Direct Push Rig	1	\$1,480.00	day	\$1,480.00
	Mobilization/Demobilization	1	\$150.00	lump	\$150.00
	Well Materials	6	\$25.00	well	\$150.00
	Disposal - Soil & Groundwater	2	\$150.00	drum	\$300.00
	Sub Total Task 2				\$4,195.50
2	Task 2: Laboratory Analytical Services				
	BTEX/MTBE (EPA 8021B) - Soil	12	\$50.00	ea	\$600.00
	BTEX/MTBE (EPA 8021B) - Water	6	\$50.00	ea	\$300.00
	TPH (TX 1005) - Soil	12	\$65.00	ea	\$780.00
	TPH (TX 1005) - Water	6	\$65.00	ea	\$390.00
	Sub Total Task 3				\$2,070.00
4	Task 4: Data Reduction & Report				
	Principal	1	\$115.00	hr	\$115.00
	Project Manager	20	\$85.00	hr	\$1,700.00
	Clerical	2	\$35.00	hr	\$70.00
	Drafts Person II	12	\$50.00	hr	\$600.00
	Photos/Developing/Printing/Shipping	6	\$15.00	ea	\$90.00
	Sub Total Task 4				\$2,575.00
	TOTAL				\$9,241.00

Example Invoice

TASK	PROPOSED COST ESTIMATE (NOT TO EXCEED)					INVOICE REPORT						
	TASK/ITEM DESCRIPTION	QUANTITY	RATE	UNIT COST	UNITS	AMOUNT	THIS INVOICE QUAN.	TO DATE QUAN.	BALANCE QUAN.	\$ AMT.		
1	Task 1 Preparation											
	Project Manager	1	\$85.00	hr	\$85.00	0	\$0.00	1	\$85.00	0	\$0.00	
	Technician I	6	\$50.00	hr	\$300.00	0	\$0.00	6	\$300.00	0	\$0.00	
	Vehicle Mileage	50	\$0.31	mi	\$15.50	0	\$0.00	50	\$15.50	0	\$0.00	
	Sub Total Task 1					\$385.00		\$0.00		\$385.00		\$0.00
2	Task 2 Field Activities											
	Principal	3	\$115.00	hr	\$345.00	0	\$0.00	3	\$345.00	0	\$0.00	
	Project Manager	14	\$85.00	hr	\$1,190.00	0	\$0.00	14	\$1,190.00	0	\$0.00	
	Technician III	14	\$50.00	hr	\$700.00	0	\$0.00	14	\$700.00	0	\$0.00	
	Field Screening Equipment (FID rental)	1	\$75.00	day	\$75.00	0	\$0.00	1	\$75.00	0	\$0.00	
	Field Supplies	1	\$20.00	day	\$20.00	0	\$0.00	1	\$20.00	0	\$0.00	
	Vehicle Mileage	50	\$0.31	mi	\$15.50	0	\$0.00	50	\$15.50	0	\$0.00	
	Direct Push Rig	1	\$1,480.00	day	\$1,480.00	0	\$0.00	1	\$1,480.00	0	\$0.00	
	Mobilization/Demobilization	1	\$150.00	lump	\$150.00	0	\$0.00	1	\$150.00	0	\$0.00	
	Well Materials	6	\$25.00	well	\$150.00	0	\$0.00	6	\$150.00	0	\$0.00	
	Disposal - Soil & Groundwater	2	\$150.00	drum	\$300.00	2	\$300.00	2	\$300.00	0	\$0.00	
	Sub Total Task 2					\$4,080.50		\$300.00		\$4,080.50		\$0.00
	Task 3: Laboratory Analytical Services											
	BTEX/MTBE (EPA 8021B) - Soil	12	\$50.00	ea	\$600.00	0	\$0.00	12	\$600.00	0	\$0.00	
	BTEX/MTBE (EPA 8021B) - Water	6	\$50.00	ea	\$300.00	0	\$0.00	6	\$300.00	0	\$0.00	
	TPH (TX 1005) - Soil	12	\$65.00	ea	\$780.00	0	\$0.00	12	\$780.00	0	\$0.00	
	TPH (TX 1005) - Water	6	\$65.00	ea	\$390.00	0	\$0.00	6	\$390.00	0	\$0.00	
	Sub Total Task 3					\$2,070.00		\$0.00		\$2,070.00		\$0.00
4	Task 4: Data Reduction & Report											
	Principal	1	\$115.00	hr	\$115.00	1	\$115.00	1	\$115.00	0	\$0.00	
	Project Manager	20	\$85.00	hr	\$1,700.00	20	\$1,700.00	20	\$1,700.00	0	\$0.00	
	Clerical	2	\$35.00	hr	\$70.00	2	\$70.00	2	\$70.00	0	\$0.00	
	Drafts Person II	12	\$50.00	hr	\$600.00	12	\$600.00	12	\$600.00	0	\$0.00	
	Photos/Developing/Printing/Shipping	6	\$15.00	ea	\$90.00	6	\$90.00	6	\$90.00	0	\$0.00	
	Sub Total Task 4					\$2,575.00		\$2,575.00		\$2,575.00		\$0.00
TOTAL						\$9,110.50		\$2,875.00		\$9,110.50		\$0.00

Contract No. 57548PF__

Work Authorization No. __

**Work Authorization Close Out
(Decommitment of Funds)**

The Texas Department of Transportation (the State) and _____ (the Engineer) entered into Work Authorization No. ____ on _____ to authorize the Engineer to provide environmental engineering services at _____ in the amount of \$_____; and,

The State is revising or closing out the work authorization for the following reason:

the Engineer has completed the authorized work and presented all required reports or other _____ deliverables to the State

the State has determined that the work will not be needed (documentation attached)

the Engineer has advised that he will not be able to complete the work (documentation attached)

other (documentation attached)

The revised or actual cost of the services was less than the estimated cost authorized in the work authorization, causing an unused amount of \$_____ in the work authorization balance.

This work authorization is revised or closed out and the remaining unused balance is returned to the available balance of the contract.

Prepared by _____ Date _____
(Engineer)

****For ENV Use Only****

Unused Amount Returned: \$ _____

ENV Approval: _____

Date: _____

Work Authorization Evaluation

Contract No. _____

Work Authorization No. _____

Work Authorization Evaluation (Statewide Consultant Evaluation)

INSTRUCTIONS: Both positive and negative comments can be provided. The electronic version of this table will expand if more space is needed or user can attach additional sheets.		
Statewide consultant's name		
2) Statewide consultant project manager's name		
3) Did the statewide consultant comply with the terms of the contract or work authorization?	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> no comment	Additional Comments:
4) Were costs incurred in accordance with the work authorization?	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> no comment	Additional Comments:
5) Was the work schedule maintained?	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> no comment	Additional Comments:
6) What was the quality of work?	<input type="checkbox"/> outstanding <input type="checkbox"/> competent <input type="checkbox"/> marginal <input type="checkbox"/> poor <input type="checkbox"/> no comment	Additional Comments:
7) What was the quality of subprovider's (subcontractor's) work?	<input type="checkbox"/> outstanding <input type="checkbox"/> competent <input type="checkbox"/> marginal <input type="checkbox"/> poor <input type="checkbox"/> no comment	Additional Comments:
Additional Comments:		
Evaluator's name:	District or Division:	Date: