

ATTACHMENT C
SCOPE OF SERVICES

I. Introduction

Florida's Petroleum Restoration Program (Program) encompasses nearly 12,000 open discharges of petroleum or petroleum products from stationary petroleum storage systems at approximately 10,000 confirmed contaminated sites that are eligible or otherwise approved for cleanup funding assistance from the Inland Protection Trust Fund (IPTF). The annual appropriation for direct cleanup related expenditures is currently \$125 million.

The Florida Department of Environmental Protection (DEP) is procuring contractors to perform petroleum contamination site response action services under the Program. This selection is being conducted under the authority provided in section 376.30711, F.S. and section 287.057, F.S. Activities associated with site response actions will be performed in accordance with the provisions of Chapter 62-780, Florida Administrative Code (F.A.C.), Contaminated Site Cleanup Criteria Rule and section 376.3071, F.S. The selected contractors will be responsible for all phases of assessment and cleanup, as well as liability of damage suffered by the State for non-performance. The selected contractors may be given task assignments for sites at which some assessment or remedial activities have already occurred. In such cases, the Contractor's liability for accepting and using work done by previous Contractors will be negotiated on a site-specific basis.

Multiple response action contractors will be selected and retained by the DEP to work on the highest priority petroleum contamination sites. From this pool of contractors, the DEP will assign sites based on contractor logistics, geographical considerations, convenience or other logical criteria. As work becomes available, the DEP reserves the right to solicit, from selected contractors, cost proposals and technical proposals for the phases of work on a site by site basis. Additionally, the DEP reserves the right to competitively bid out any portion of the assessment and cleanup work at a site or group of sites.

It is also the DEP's intention, in accordance with section 376.30711(2)(a), F.S., to award some of the work based upon the most competitive price for performance based cleanup. This price will be determined by soliciting cost proposals from selected contractors simultaneously. A performance based cleanup is one in which payments are made to the Contractor based upon a negotiated schedule of cleanup progress.

The selected contractors shall provide site response action services to the DEP for the Program. These services cover a broad range of activities in the general categories of site assessment, remedial options and design, remedial action implementation, and site closure, as outlined in the Petroleum Cleanup Phase and Cleanup Activity Table, Category Descriptions, and Technical Specifications below, as well as the Schedule of Pay Item Prices in Attachment E and other referenced Appendices.

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II. Petroleum Cleanup Phase and Cleanup Activity Table

Cleanup Phase	Cleanup Activity	Abbreviation
Source Removal (SR)	Contaminated Soil Removal (CSR)	SR-CSR
	Free Product Recovery (FPR)	SR-FPR
Site Assessment (SA)	Site Characterization Screening (SCS)	SA-SCS
	Reconnaissance (REC)	SA-REC
	Initial Site Assessment (ISA)	SA-ISA
	Site Assessment (SA)	SA-SA
	Supplemental Site Assessment (SSA)	SA-SSA
	Site Closure (SC)	SA-SC
	Well Abandonment That is Not Part of Site Closure (WA)	SA-WA
Remedial Action (RA)	Natural Attenuation Monitoring Plan (NAP)	RA-NAP
	Natural Attenuation Monitoring (NAM)	RA-NAM
	Long Term Natural Attenuation Monitoring (LTNAM)	RA-LTNAM
	Supplemental Site Assessment (SSA)	RA-SSA
	Pilot Test (PT)	RA-PT
	Limited Scope Remedial Action Plan (LSRAP)	RA-LSRAP
	Remedial Action Plan (RAP)	RA-RAP
	Remedial Action Modification Plan (MOD)	RA-MOD
	Contaminated Soil Removal (CSR)	RA-CSR
	Free Product Recovery (FPR)	RA-FPR
	Limited Scope Remedial Action (LSRA)	RA-LSRA
	Remedial Action Construction (RAC)	RA-RAC
	Operation & Maintenance (O&M)	RA-O&M
	Post Active Remediation Monitoring (PRM)	RA-PRM
	Site Closure (SC)	RA-SC
Well Abandonment That is Not Part of Site Closure (WA)	RA-WA	
Performance-Based Cleanup (PBC)	Any Applicable Cleanup Codes Above Verification Sampling (VS)	PBC-(code) PBC-VS

III. Category Descriptions

- A. **Site Assessment:** The selected contractor (Contractor) will perform all aspects of the site assessment in accordance with applicable rules and guidance of the DEP and other government entities, including general coordination and communication during the project, researching site history and background, identifying potential receptors and health risks, determining the chemicals of concern present, their concentrations and the vertical and horizontal extent of the contaminant plume in all affected media, determining the lithologic and hydrogeologic parameters that affect the migration of contaminants, identifying off-site contamination and affected parties, evaluating site closure options, and preparation of associated reports.

Examples of work to be performed under this contract include but are not limited to:

1. Review existing and historical site records, prior assessment and cleanup activities, program expenditures and eligibility status and prepare a site specific Health & Safety Plan.

2. Communicate with parties affected by and/or associated with the site.
 3. Determine site logistics, negotiate and obtain offsite access agreements and obtain required permits and utility clearance for site assessment activities.
 4. Install soil borings, temporary sampling points, and monitoring wells and conduct soil screening and field testing, including equipment calibration. Identify contaminant sources, potential receptors and exposure pathways.
 5. Collect, preserve and ship air, water, soil, and sediment samples to laboratory for petroleum contaminant analysis, collect groundwater elevation data and conduct a professional land survey (PLS) and properly manage investigative derived waste (IDW), including removal, storage, treatment and disposal/recycling.
 6. Conduct Indoor Vapor Intrusion (IVI) survey for sites with on-site buildings and/or sensitive receptors.
 7. Provide technical oversight for field activities; including detailed field notes for work assigned under the contract.
 8. Interpret laboratory report data, delineate contaminant plumes and prepare off-site contamination notification packages.
 9. Prepare proposals and technical reports and deliverables, including necessary professional review and certification and certify site assessment documents by a Florida registered Professional Geologist (P.G.) or qualified Florida registered Professional Engineer (P.E.) and evaluate sites for closure criteria.
 10. Prepare and submit invoices for completed work in accordance with the contract.
 11. Provide technical assistance or expert witness services pursuant to the contract.
- B. **Remedial Options and Design:** The Contractor will perform all aspects of evaluation and design for remedial action options in accordance with applicable rules and guidance of the DEP and other government entities. The Contractor will identify appropriate cost-effective remedial options ranging from conditional closure to natural attenuation monitoring, source removal, chemical injection, bioremediation, in-situ and ex-situ treatment, post remediation monitoring and site closure. The Contractor will conduct feasibility/pilot tests, utilize fate and transport modeling for contaminants, evaluate available risk management options, and prepare remedial action plans and designs, with analysis of potential treatment options, objectives, cleanup strategies, implementation feasibility, cost estimates, cleanup milestones, and cleanup logistics, schedules and timeframes.

Examples of work to be performed under this contract include but are not limited to:

1. Prepare natural attenuation monitoring plans.
2. Prepare and implement pilot test plans and pilot tests for selected technologies and prepare pilot test reports.
3. Prepare remedial action plans and modifications, including remedial alternative evaluations and designs and prepare construction drawings and specifications.
4. Facilitate UIC and NPDES permits and compliance with associated requirements.
5. Establish cleanup milestones, milestone schedules and monitoring plans during remedial action.
6. Identify and evaluate potential contamination receptors and exposure pathways, conduct risk assessments and/or fate and transport modeling and develop site specific alternative cleanup target levels (CTLs) for soil and groundwater.

7. Evaluate closure options that may or may not incorporate engineering and/or institutional controls as provided under Risk Management Options Levels I, II and III of Chapter 62-780, F.A.C.
 8. Certify level 2 natural attenuation plan, pilot test and remedial action plan documents by a Florida registered P.E.
 9. Propose No Further Action with or without conditions based on assessment data.
- C. **Remedial Action Implementation:** The Contractor will perform all aspects of the remedial action implementation in accordance with applicable rules and guidance of the DEP and other government entities, and in accordance to the approved Natural Attenuation Monitoring Plan or Remedial Action Plan (RAP); including general coordination and communication during the project; research, evaluation and logistics regarding groundwater monitoring, free product recovery, soil source removal and/or performance of system operation and maintenance, monitoring of the effectiveness of system and necessity for RAP modification, evaluation of site closure options, post remediation monitoring and preparation of associated reports. **NOTE:** Under certain conditions, source removal consisting of limited scope free product recovery and contaminated soil removal and treatment or disposal are allowed prior to completion of a complete site assessment and/or formal RAP.

Examples of work to be performed under this contract include but are not limited to:

1. Review existing site data, in conjunction with adjacent or nearby sites, and identify data gaps.
2. Perform natural attenuation monitoring in accordance with approved NAM plans
3. Plan and evaluate logistics for remedial action implementation activities, acquire required permits and utility clearance for remedial activities, implement necessary traffic, safety and erosion control and establish required utility services.
4. Communicate with parties affected by and/or associated with the remedial action construction for the site and negotiate offsite access and execute access agreements.
5. Conduct free product recovery and disposal, soil source removal, including surface pavement/concrete removal, dewatering, transport and disposal, backfill and compaction, and perform storage system removal integral to site rehabilitation.
6. Perform below ground remediation system installation, including recovery/treatment well installation, trenching, plumbing and electrical conduit installation, testing, backfill, compaction and resurfacing, and perform above ground system installation, including installation of equipment, control panel, and telemetry, and plumbing and electric connections to equipment and recovery/treatment points.
7. Conduct system start-up monitoring activities to ensure that the remediation system is activated properly; provide system installation reports including as-built drawings for the remediation system.
8. Operate, monitor, and maintain remediation systems and equipment; monitor, evaluate and optimize system performance, collect, preserve and ship air, water, soil, and sediment samples to document petroleum contaminant levels and system progress and collect groundwater elevation data.
9. Prepare and review source removal, system startup and system operation status reports; including water level data, operational parameters and concentrations of applicable petroleum contaminants of concern, and evaluate sites for system shut-down and post remediation monitoring criteria.
10. Provide technical oversight for field activities; including detailed field notes and properly manage investigative derived waste (IDW) and construction related waste, including removal, storage, treatment and disposal/recycling.
11. Perform post active remediation monitoring and evaluate sites for closure criteria and Risk Management Options.

12. Prepare proposals, off-site contamination notification packages, technical reports and deliverables, including necessary professional review and certification.
 13. Prepare and submit invoices for completed work in accordance with the contract.
 14. Provide technical assistance or expert witness services pursuant to the contract.
- D. **Site Closure:** The Contractor will perform all aspects of site closure in accordance with applicable rules and guidance of the DEP and other government entities. The Contractor is expected to make professional recommendations for a No Further Action closure according to the applicable criteria for Risk Management Options Level I, II, and III in Chapter 62-780, F.A.C. The Contractor will also provide technical details and professional recommendations to support proposed institutional and/or engineering controls. Lastly, the Contractor will facilitate the grouting and abandonment of all borings and wells, draining and capping of all subsurface system conduits, removal of equipment and equipment compounds and other activities associated with returning the site as near as practicable to the conditions that preceded remedial action.

Examples of work to be performed under this contract include but are not limited to:

1. Prepare no further action with conditions packages with supporting documentation, perform or oversee professional land surveys required to reflect engineering and/or institutional controls and assist in the preparation and filing of required deed restrictions and/or notices.
2. Provide P.E. certification of sufficiency of engineering control along with monitoring and maintenance recommendations, and design and install engineering controls.
3. Perform remediation system decommissioning, removal and transfer or disposal and perform proper abandonment of monitoring wells, treatment wells, treatment system conduits and vaults.
4. Perform general site restoration as close as practicable to conditions that preceded remedial action.
5. Prepare Site Rehabilitation Completion and well abandonment reports.

The DEP reserves the right to task the Contractor to perform services that are deemed necessary by the DEP to be performed, which are related to the services outlined herein, but which are not specifically set out herein.

IV. Reporting Requirements

Where required and authorized by Chapters 471 and 492 of the Florida Statutes, applicable portions of required documents, which are submitted to the DEP for public record shall be signed and sealed by the appropriate professional(s) who prepared them. All reports must be submitted to DEP in accordance with the requirements in Chapter 62-780, F.A.C., the "Technical Report and Deliverable Related Time Frames" table in Appendix I, applicable DEP guidance, and comply with the DWM Policy on Professional Certification of Technical Documents dated March 31, 2000, if applicable.

The Contractor may be required to submit multiple reports as a result of work described herein. These reports may be in standard format(s) to be provided by the DEP. All reports and data shall be delivered in both physical printed form and as electronic data retrievable from e-mail attachments or computer disks (CDs preferred). Map data and engineering drawings shall be in a format compatible with AutoCAD. Report materials shall be in machine readable and retrievable form, and composed in a word processor program, which requires no more than an IBM or IBM-compatible personal computer. Microsoft Word and Excel are the software programs currently in use by the DEP. The Contractor shall supply its reports using one, or some combination of, these software, or in a software format which the DEP can readily convert for retrieval and reading, and/or in other software which the DEP may adopt for use during the period of this contract. The DEP reserves the right to require all selected contractor(s) to use a single, specified format for data management and project tracking.

V. Technical Specifications

A. Points of Clarification

1. All work must be completed in accordance with the applicable Laws, Administrative Rules, and DEP Guidance. See Laws and Regulatory Specifications in the Scope of Work Appendix I, including the Table of DEP Guidance Documents and Forms in section A. All references to specific laws rules and guidance apply to future revisions and additions for which notice will be provided as applicable.
2. **Approximately 99% of all internal and external communication regarding the work should be considered routine.** Routine Communication is defined as any telephone, email, or personal communication that can reasonably be expected to be necessary in order to complete the scope of work, including but not limited to the communication from the Contractor to DEP regarding notification of activities, requests for information, updates on work status, and changes in the scope of work; communications among the Contractor staff, team members, and subcontractors regarding the work and reasonably anticipated problems or concerns; and Contractor notifications to site owners, operators, and tenants regarding planned work (excluding obtaining access).
3. Pay items listed in these specifications are fully-loaded rates that include all routine communication, labor, materials, equipment, administration, and invoice preparation costs. The Contractor is prohibited from charging additional labor hours for preparation of invoices, task assignment and task assignment amendment proposals, work plans, and routine communication. Task assignment and task assignment amendment proposals shall follow the "Proposal Process" described in the Scope of Work Appendix I.
4. Costs associated with obtaining necessary permits and utility clearance to complete a specified pay item are included in the fully-loaded pay item. However, any associated fees will be reimbursed with the Reimbursable pay item based on the actual permit issuer invoice.
5. Travel is NOT included in fully-loaded pay items, unless otherwise specified. Non-pilot testing remedial action packaged work scopes do specify that mobilization is included. Where not specified as included, Contractor and Subcontractor travel will be paid with the applicable Mobilization pay items.

Meals and lodging are NOT included in fully-loaded pay items, unless otherwise specified. Non-pilot testing remedial action packaged work scopes do specify Per Diem is included. Where not specified as included, meals and lodging will only be paid when an overnight stay is REQUIRED with the Per Diem pay item at the current State Per Diem Rate prorated in quarter day increments (6 hrs) within each 24 hour day under travel status pursuant to Section 112.061, F.S. However, in cases involving Contractor travel for specific meetings or legal proceedings required by the DEP, hotel and subsistence (meals) may be paid in accordance with section 112.061, F.S., rather than per diem.
6. Supporting documentation for all charges must be maintained by the Contractor and made available to the DEP upon request in accordance with Contract requirements.
7. The Contractor shall perform groundwater sampling in accordance with the most recent version of the DEP Quality Assurance Groundwater Sampling Standard Operating Procedures (DEP-SOP-001/01, FS 2200 Groundwater Sampling) referenced in the Quality Assurance Rule, Chapter 62-160, F.A.C., BPSS Procedure PCS-005, Groundwater Sampling Procedures Variances and Clarifications for Bureau of Petroleum Storage System Sites.

8. The Contractor shall ensure that all water well installation, repair and abandonment activities under this contract are performed by a licensed Florida Water Well Contractor in accordance with Chapter 62-531, F.A.C., and conform with the permitting and construction requirements of Section 373.326, F.S., Chapter 62-532, F.A.C., and applicable DEP guidance.
9. The Contractor shall maintain detailed field notes for all site activities in accordance with the April 25, 2012 BPSS Field Notes Guidance Document and provide copies of the notes with their deliverables and/or reports as directed.
10. With prior written DEP approval, the Contractor may purchase goods and services not covered by the Contract fixed price schedule as directed by DEP Project Manager, provided they strictly adhere to state procurement laws and federal requirements for federally funded projects. All goods and services purchases must be accompanied by the necessary documentation to ensure the best value for the State.
11. Prices for goods and services not covered by the Contract fixed price schedule shall be established such that the DEP obtains reasonable prices from vendors and subcontractors of demonstrated competence and qualification. Records supporting procurement of these goods and services must contain sufficient detail to demonstrate that the Contractor meets DEP requirements in obtaining price quotations or proposals for said goods and services. The DEP and state auditors shall have access to these records at all reasonable times for the purpose of review, inspections, audits, and copying during normal business hours.
 - a. For purchases whose aggregate value is \$2,500.00 or less, a single written quotation or proposal is required (electronic copies accepted). The price should be considered to be "fair and reasonable" by the Contractor and the DEP Project Manager. At the discretion of the DEP Project Manager, the Contractor may be directed to obtain additional quotations.
 - b. For purchases above \$2,500.00, the Contractor, wherever possible, must obtain a minimum of three (3) responsive quotes or proposals, and select the one that best represents a reasonable price from a vendor of demonstrated competence and qualifications. The solicitation for quotes or proposals should specify the factors that will be used to determine demonstrated competence and qualifications. The Contractor shall also include in their solicitation instructions for the subcontractor or vendor to send a copy of the written quotation or proposal to the DEP Project Manager concurrent with their copy to the Contractor (electronic copies accepted).
12. Reimbursable items shall be paid according to the actual receipts for actual costs incurred, markups or handling fees shall not be allowed.
13. The Contractor shall mobilize equipment and personnel from locations that provide the best value for the State.
14. For services provided by subcontractors that are not part of the team identified by the Contractor to perform the scopes of work identified in the Pay Item Schedule, unless otherwise directed by the DEP, the Contractor shall make every effort to procure subcontractor services local to the site. If local subcontractors are not available, the Contractor shall make every effort to procure subcontractor services closest to the site.
15. Unless otherwise specified, "Per Day" costs are for a twenty-four (24)-hour day. "Per Week" costs are for seven (7) consecutive days. "Per Month" costs are for thirty (30) consecutive days. "Per Week"

rates shall be applied when they are less expensive than the appropriate number of "Per Day" rates. "Per Month" rates shall be applied when they are less expensive than the appropriate number of "Per Week" and "Per Day" rates.

16. Other than pre-existing State-owned equipment and approved replacement parts associated therewith, all remediation systems must be provided at unit costs for time used and shall not be purchased by the State or expenses under this contract. Pay schedule items for combined equipment and operation packaged work scopes have been established for the most commonly used remediation systems for daily and weekly time periods, and separate pay schedule items for remediation system use only have been established for short term monthly (≤ 6 mos.) and long term monthly (>6 mos.) time periods, with optional additions for carbon treatment and off-gas treatment (i.e. thermal/catalytic oxidizers). All equipment must be provided in good working order, and any repair or replacement necessitated by equipment breakdown or failure shall be accomplished in a timely manner. Equipment repairs or parts replacement are the responsibility of the Contractor. Furthermore, the Contractor shall not bill for costs associated with any downtime or costs associated with the replacement of equipment or materials (e.g., mobilization costs, labor, equipment costs and shipping).

There are exceptions when pre-existing State-owned equipment is being used. Initial repairs, replacement of parts and components or modifications to pre-existing State-owned equipment will be paid at the DEP's discretion if deemed to be cost effective following all State property rules and guidelines pertaining to capitalization, transfer, tracking and surplus. Specific purchased replacement equipment is expected to be covered under warranty from the equipment manufacturer and shall not be subject to billing by the Contractor for costs associated with any downtime or costs associated with the replacement of equipment or materials (e.g., mobilization costs, labor, equipment costs and shipping) for a period of one year.

17. The operation and maintenance of remediation systems on a monthly basis, whether they be provided by the Contractor at unit costs for time used or pre-existing State-owned equipment, is covered by a series of all inclusive fixed unit prices that cover all of the costs to operate, monitor and maintain the remedial system. Exception is made for major repairs and replacement components required for pre-existing State-owned equipment that are not covered by manufacturer's warranty. Such expenses must be preapproved by the DEP after consideration of cost effectiveness.
18. Each remediation system, whether part of a packaged work scope, equipment only provided by the Contractor at unit costs for time used or pre-existing State-owned, shall have a minimum operational runtime of 80% of the approved design runtime based on clock meter readings for each major component. The DEP will not pay full cost for system use the operation and maintenance of systems that do not perform. For system runtimes of less than 80% of the approved design runtime for all major components during the pay schedule item time frame, the applicable pay schedule items will be invoiced at the amount equal to the percentage runtime using the following method: multiply the full pay schedule item amount times the actual runtime percentage = invoice amount (e.g., if runtime is 75%, and the approved design runtime is 100%, only 75% of the full pay schedule item amount will be paid).
19. In accordance with the General Conditions of this Contract, the Contractor shall prepare a site-specific health and safety plan for all sites. A copy of the plan must be retained onsite and available for DEP inspection.
20. All pay schedule items listed shall include the cost of Level D personal protective equipment (PPE) worn at the site. Level D PPE includes steel-toed boots, hard hat, safety glasses (or goggles), gloves, and any other equipment necessary to comply with OSHA Level D hazard classification per 29 CFR

1910.120. If Contractor personnel require PPE greater than Level D, the DEP may authorize reimbursement through the Reimbursable pay item.

21. All reports shall be submitted to the DEP in accordance with the Contractor Technical Report and Deliverable Related Time Frames in the Appendix I, unless otherwise specified. Reports shall include a description of the activities completed, evaluation of the data provided, deviations from task assignment requirements, and recommendations for additional work needed to move the site toward closure.

Report submittals shall consist of one (1) final report hard copy and one (1) final report digital copy. Digital data shall be submitted as an e-mail attachment if within size limitations, or on compact disk (CD) if too large, compatible with Microsoft Word/Excel™ for a Microsoft Windows™ configured computer. Data shall also be made available electronically to other DEP Contractors at the request of the DEP Project Manager.

22. Personnel provided under the Contract, whether covered by the pay schedule items or subject to negotiation (for professional engineering services) shall be based on the Contract Descriptions of DEP Labor Categories and Key personnel in the Appendix I. In addition, the Contractor must provide notification to the DEP Contract Manager of any changes in the Key personnel identified in their response to the solicitation and/or upon execution of a contract with the DEP. Such notification shall include a detailed reason(s) for the need to change personnel and the Contractor shall provide replacement personnel with equal or greater qualifications and experience.
23. For site access, Contractors shall use the DEP sample site access agreement for State cleanup contractors dated March 2, 2012, or incorporate the same provisions into their own agreement.

B. Schedule of Pay Items

1. **OFFICE ACTIVITIES:** The following pay items will be used for non-report related office activities. Travel/mobilization is generally not allowed for these activities.

Unless otherwise specified, the following pay items **INCLUDE:**

- a. All equipment, material, and labor costs.
- b. Communication, Reproduction and Mailing costs.
- c. If applicable, submittal of one (1) final document hard copy, and one (1) final document digital copy.

Unless otherwise specified, the following pay items do **NOT INCLUDE:**

- a. Travel related costs, generally not approved for office activities.

- 1-1. **File Review:** [Per Review]. This pay item is allowed only when a site is new to an assigned Contractor. It may be allowed prior to issuance of the Task Assignment but the Contractor must secure prior permission to do so. Travel time for "File Review" is not allowed.
- 1-2. **Site Health & Safety Plan:** [Per Site]. This pay item is for the preparation of a comprehensive standard petroleum site Health and Safety Plan. Allow once per site per CONTRACTOR.
- 1-3. **Notice of Discovery of Contamination Package (Initial or TPOC):** [Per Package]. This pay item is to prepare either the information package for the Initial Notice of Contamination Beyond Property Boundaries or the actual notices for the proposed establishment of a Temporary Point of Compliance

(TPOC) beyond Property Boundaries in accordance with published DEP rules, guidance and procedures. It includes completion of the Initial Notice of Contamination Beyond Property Boundaries in Rule 62-780.900, Contamination Notification Data Tables (for initial noticing packages) and copies of existing contaminant plume maps. Multiple iterations of this pay item may be allowed as the site assessment progresses when the rule requires initial notification within 10 days of discovery. However, only one pay item shall be allowed for initial notice package to address suspected "off-site" properties based on the signed and sealed plume map in a technical report and only one pay item shall be allowed for the TPOC notices prior to RAP or NAM Plan approval.

- 1-4. Permit Fees: [Reimbursable]. Actual permit fee invoice from permit issuer required. Cost to obtain permit is included in applicable pay items.

NOTE: Underground injection wells, including air sparge wells, are exempt from Water Management District permit fees pursuant to Chapter 373, F.S., and are permitted by the DEP technical approval order. Where such exemptions exist, permit fees are not required and will not be reimbursable under this contract.

- 1-5. Off-Site Property Access Agreement: [Per Access Agreement]. Must use DEP access agreement format.

2. **FIELD ACTIVITIES – GENERAL**: The following pay items will be used for general field activities.

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All equipment, material, and labor costs.
- b. Collection of field measurements by a qualified Technical Specialist or Field Technician familiar with surveying techniques.
- c. Costs to incorporate collected data in the appropriate tables, maps, and cross-sections in any subsequent site reports.
- d. Sample shipping.
- e. Communication, Reproduction and Mailing costs.
- f. Submittal of one (1) final report hard copy, and one (1) final report digital copy.

Unless otherwise specified, the following pay items do **NOT INCLUDE**:

- a. Mobilization of personnel and equipment to and from site (Use Mobilization pay item).
- b. Sample collection (Use Sample Collection pay item).
- c. Well Gauging (Use Well Gauging pay item).
- d. Well installation (Use Well Installation pay item).
- e. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).
- f. Securing property Access Agreements (Use Off-Site Property Access Agreement pay item).
- g. Reports (Use Reports pay item).

- 2-1. Site Reconnaissance/Field Measurement Visit: [Per Visit]. This pay item is for new sites to collect basic site information necessary to develop a detailed scope of work for site assessment, including the layout of the site and topography, structures, storage systems, existing compliance or monitoring wells, utility lines, access logistics, traffic patterns, adjacent property use, potential contaminant sources, measure field points, including but not limited to building corners, manholes, and the top-of-casing elevations for previously installed wells, to a precision of 0.01-feet vertical relative to a common datum or benchmark within 1,000 feet. Gauging of existing monitoring wells is typically conducted concurrent with this visit.

- 2-2. Receptor Survey and Exposure Pathway Identification: [Per Survey]. This pay item is to identify potential receptors and exposure pathways for site risk determination. The survey will include a water well records search to identify all recorded water wells within a 0.5-mile radius and ordinances or other circumstances that prevent or influence future water wells. The survey will also include a records search including a DEP file review and a 500-foot field receptor survey performed by a qualified Technical Specialist to identify other receptors and exposure pathways, including unrecorded water wells, surface water bodies, underground utilities, buildings and confined spaces, sensitive or protected habitats, off-source site property impacts, current land use and zoning information and other potential receptor risk factors. Lastly, this pay item does not include, but does require a specific report, including photographic documentation using the July 1, 2013 DEP Draft Receptor Survey and Exposure Pathway Identification Form and required attachments. The report may be submitted either as a stand-alone report or as an additional component of another report such as the Site Assessment Report. See Reports pay item for associated report.
- 2-3. Professional Land Survey: [Reimbursable]. To be performed by Florida licensed professional land surveyor. Includes survey plat, field notes showing site boundaries and easements, legal description, and metes and bounds description. Digital CAD data and Adobe Acrobat™ PDF file of the plat shall be submitted electronically as an e-mail attachment. Actual PLS invoice required.
- 2-4. Contractor Oversight for Non-Price Schedule Activities: [Per Day]. This pay item represents one 10 hour day of Contractor Oversight of field activities not covered by the fixed cost schedule and is to be prorated to the nearest 1/10 day (1 hour) based on actual time spent on-site (e.g. 6 hours = 0.6 days and 12 hours = 1.2 days).
3. MOBILIZATION: The following pay items are for transportation of all personnel and equipment to and from the site associated with activities included in the price schedule, unless mobilization is specifically included in a pay item (i.e. non-pilot testing remedial action packaged scopes). Mobilization for procured goods and services (vendors and subcontractors) not covered by the fixed price schedule should be included in the Reimbursable vendor and subcontractor costs. Mobilization is generally limited to once per field event, but for long term projects may be allowed for work crews not more frequently than once per week (7 days).

Unless otherwise specified, the following pay items INCLUDE:

- a. Field personnel and equipment operators.
 - b. Fuel, oil, maintenance and repairs.
 - c. Road/bridge tolls and fees.
 - d. All other costs associated with operating a vehicle/trailer and mobilizing to and from site.
- 3-1. Mobilization, Light Duty Vehicle (car or 1/2 ton truck) - ≤ 100 miles each way: [Per Round Trip].
- 3-2. Mobilization, Light Duty Vehicle (car or 1/2 ton truck) - > 100 miles each way: [Per Round Trip].
- 3-3. Heavy Duty/Stakebed Truck (3/4 ton +) - ≤ 100 miles each way: [Per Round Trip].
- 3-4. Heavy Duty/Stakebed Truck (3/4 ton +) - > 100 miles each way: [Per Round Trip].
- 3-5. Work Trailer - ≤ 100 miles each way: [Per Round Trip].
- 3-6. Work Trailer - > 100 miles each way: [Per Round Trip].

- 3-7. DPT Rig Mobilization - ≤ 100 miles each way: [Per Round Trip].
- 3-8. DPT Rig Mobilization - > 100 miles each way: [Per Round Trip].
- 3-9. Drill Rig Mobilization - ≤ 100 miles each way: [Per Round Trip].
- 3-10. Drill Rig Mobilization - > 100 miles each way: [Per Round Trip].
- 3-11. Excavator Mobilization - ≤ 100 miles each way: [Per Round Trip].
- 3-12. Excavator Mobilization - > 100 miles each way: [Per Round Trip].
- 3-13. LDA Rig Mobilization - ≤ 100 miles each way: [Per Round Trip].
- 3-14. LDA Rig Mobilization - > 100 miles each way: [Per Round Trip].
- 3-15. Loader/Backhoe Mobilization - ≤ 100 miles each way: [Per Round Trip].
- 3-16. Loader/Backhoe Mobilization - > 100 miles each way: [Per Round Trip].
- 3-17. Mini Excavator/Loader (Bobcat™) Mobilization - ≤ 100 miles each way: [Per Round Trip].
- 3-18. Mini Excavator/Loader (Bobcat™) Mobilization - > 100 miles each way: [Per Round Trip].
- 4. **MEALS AND LODGING:** This pay item is for personnel traveling and working away from their home office for more than one consecutive day in association with activities included in the price schedule and will be paid at the current State Per Diem rate prorated in quarter day increments (6 hrs) within each 24 hour day under travel status pursuant to Section 112.061, F.S. Per Diem associated with procured services (subcontractors) not covered by the fixed price schedule should be included in the Reimbursable subcontractor costs.
- 4-1. Per Diem – For travel > 1 Consecutive day (prorated in quarter day increments): [Per Person, Per Day].
- 5. **DRILLING AND BORING:** The following pay items will be used for drilling and logging of soil borings, split spoon sampling and screening of soil samples with an OVA. Drilling methodology and ancillary equipment shall be appropriate for site-specific conditions. Inside boring diameter shall be appropriate to allow for proper installation of designated diameter well.

NOTE: Underground injection wells, including air sparge wells, are exempt from Water Management District permit fees pursuant to Chapter 373, F.S., and are permitted by the DEP technical approval order. Where such exemptions exist, permit fees are not required and will not be reimbursable under this contract.

Unless otherwise specified, the following pay items **INCLUDE:**

- a. All equipment, material, and labor costs.
- b. Labor costs for a State of Florida licensed water well contractor.
- c. Acquisition of all required permits, excluding actual permit fee (If applicable, see Note above).
- d. Marking well locations and providing utility clearance prior to drill rig mobilization.

- e. Concrete coring, if required.
- f. Field screening of split spoon samples of the soil column conducted by headspace techniques with a properly calibrated Organic Vapor Analyzer appropriate for the contaminants at the site.
- g. Cuttings retrieved at the surface shall be continuously examined to develop lithologic logs that include screening data.
- h. Grout sealing boreholes that are not converted into a well.
- i. Drums or containers for storage of cuttings, drilling fluids, waste, and wastewater.
- j. Preparation and submittal of soil-boring logs.
- k. For Cone Penetrometer Test (CPT) and Membrane Interface Probe (MIP), a brief narrative/summary report documenting the field activities and a complete copy of all print-out records of test readings (real-time data).

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Field oversight and soil-boring logging by a Florida registered P.G. (Use negotiated costs).
- b. Actual permit fees (If applicable, see Note above, use Reimbursable pay item).
- c. Split Spoon sampling at specified intervals for specified borings (Use Split Spoon Pay Item).
- d. Soil Sample collection (Use Sample Collection pay item).
- e. Well installation (Use Well Installation pay item).
- f. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).
- g. Reporting (Use Reports pay item).
- h. Securing property Access Agreements (Use Off-Site Property Access Agreement pay item).

- 5-1. Split Spoon Sampling (during boring): [Per Sample].
- 5-2. Hand Auger Boring ≤ 10 foot total depth: [Per Boring].
- 5-3. Direct Push Boring: [Per Foot].
- 5-4. Direct Push Boring with Cone Penetrometer Test (CPT) Probe: [Per Foot].
- 5-5. Direct Push Boring with Membrane Interface Probe (MIP): [Per Foot]. Equipped with PID and ECD.
- 5-6. HSA or MR Boring ≤ 6 inch diameter; < 50 foot total depth: [Per Foot].
- 5-7. HSA or MR Boring ≤ 6 inch diameter; 50 to 100 foot total depth: [Per Foot].
- 5-8. HSA or MR Boring ≤ 6 inch diameter; > 100 foot total depth: [Per Foot].
- 5-9. HSA or MR Boring > 6 inch to 10 inches diameter; < 50 foot total depth: [Per Foot].
- 5-10. HSA or MR Boring > 6 inch to 10 inches diameter; 50 to 100 foot total depth: [Per Foot].
- 5-11. HSA or MR Boring > 6 inch to 10 inches diameter; > 100 foot total depth: [Per Foot].
- 5-12. HSA or MR Boring > 10 to 14 inch diameter; < 50 foot total depth: [Per Foot].
- 5-13. HSA or MR Boring > 10 to 14 inch diameter; 50 to 100 foot total depth: [Per Foot].
- 5-14. HSA or MR Boring > 10 to 14 inch diameter; > 100 foot total depth: [Per Foot].

- 5-15. Sonic Boring ≤ 6 inch diameter; < 50 foot total depth: [Per Foot].
 - 5-16. Sonic Boring ≤ 6 inch diameter; 50 to 100 foot total depth: [Per Foot].
 - 5-17. Sonic Boring ≤ 6 inch diameter; > 100 foot total depth: [Per Foot].
 - 5-18. Sonic Boring > 6 inch to 10 inches diameter; < 50 foot total depth: [Per Foot].
 - 5-19. Sonic Boring > 6 inch to 10 inches diameter; 50 to 100 foot total depth: [Per Foot].
 - 5-20. Sonic Boring > 6 inch to 10 inches diameter; > 100 foot total depth: [Per Foot].
 - 5-21. Sonic Boring > 10 to 14 inch diameter; < 50 foot total depth: [Per Foot].
 - 5-22. Sonic Boring > 10 to 14 inch diameter; 50 to 100 foot total depth: [Per Foot].
 - 5-23. Sonic Boring > 10 to 14 inch diameter; > 100 foot total depth: [Per Foot].
6. WELL INSTALLATION: The following pay items will be used to CONVERT a soil boring into a well. These pay item costs do NOT include the cost of drilling of the borehole which is covered under the Drilling and Boring pay items. All wells will be authorized by the DEP and shall be constructed in accordance with the Petroleum Restoration Program procedure PCS-006, Design, Installation, and Placement of Monitoring Wells and other applicable guidance.

NOTE: Underground injection wells, including air sparge wells, are exempt from Water Management District permit fees pursuant to Chapter 373, F.S., and are permitted by the DEP technical approval order. Where such exemptions exist, permit fees are not required and will not be reimbursable under this contract.

Unless otherwise specified, the following pay items **INCLUDE:**

- a. All equipment, material, and labor costs.
- b. Labor costs for a State of Florida licensed water well contractor.
- c. Acquisition of all required permits, excluding actual permit fee (If applicable, see Note above).
- d. Conversion of boring into a well of the specified diameter using Schedule 40 PVC screen and riser/casing. Well screen up to 20 feet.
- e. Proper installation and completion at-grade of well, including end cap, annular seal (gravel pack, bentonite, grout), locking cap, and any other materials required.
- f. Proper development of the well.
- g. Field measurement of top-of-casing elevation to a precision of 0.01-feet vertical relative to a common datum or benchmark within 1,000 feet.
- h. Preparation and submittal of well construction and development logs.
- i. Notifications and reports required by federal, state or local entities, including distribution of required documentation.

Unless otherwise specified, the following pay items do **NOT INCLUDE:**

- a. Field oversight by a Florida registered P.G. (Use negotiated costs).
- b. Actual permit fees (If applicable, see Note above, use Reimbursable pay item).
- c. Drilling of borehole (Use Drilling and Boring pay item).
- d. Installation of Well Vault, if justified (Use Well Vault pay item).

- e. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).
 - f. DEP Reporting (Use Reports pay item).
- 6-1. Well Installation - 1 inch diameter: [Per Foot].
 - 6-2. Well Installation - 2 inch diameter: [Per Foot].
 - 6-3. Well Installation - 4 inch diameter: [Per Foot].
 - 6-4. Well Installation - 6 inch diameter: [Per Foot].
 - 6-5. Surface Casing - 6 inch diameter: [Per Foot].
 - 6-6. Surface Casing - 8 inch diameter: [Per Foot].
 - 6-7. Surface Casing - 10 inch diameter: [Per Foot].
 - 6-8. Surface Casing - 12 inch diameter: [Per Foot].
 - 6-9. Additional Well Screen > 20 feet: [Per Foot].
 - 6-10. Above Grade Well Completion: [Per Well]. This pay item includes all equipment, material, and labor for above-grade well completions up to 3.5 feet above ground and at least 2 feet above potential flood level, including protective steel casing, locking cover, and three protective bollards placed around the completion.
 - 6-11. Installation of Well Vault – 2 x 2 x 2 foot: [Per Vault]. This pay item includes all equipment, material, and labor to excavate and install a well vault 2 foot by 2 foot by 2 foot in size, with at least 2 inches of 2500 psi concrete for vault walls and floor, and a water-resistant traffic rated cover plate.
 - 6-12. Installation of Well Vault – 4 x 4 x 2 foot: [Per Vault]. This pay item includes all equipment, material, and labor to excavate and install a well vault 4 foot by 4 foot by 2 foot in size, with at least 2 inches of 2500 psi concrete for vault walls and floor, and a water-resistant traffic rated cover plate.
7. **WELL ABANDONMENT:** The following pay items are to grout and abandon wells. All wells shall be abandoned in accordance with the BPSS procedure PCS-006, Design, Installation, and Placement of Monitoring Wells, DEP Rules 62-532.500(4), F.A.C., and Water Management District permit requirements.

Unless otherwise specified, the following pay items **INCLUDE:**

- a. All equipment, material, and labor costs.
- b. Labor costs for a State of Florida licensed water well contractor.
- c. Field oversight by a qualified Field Technician.
- d. Removal and disposal of well casing and concrete pad.
- e. Grout sealing of the well bore.
- f. Removal and disposal of well vault with backfill and compaction of void.
- g. Resurface area to match original material (e.g. pavement, concrete, sod, etc.).
- h. Completion and submittal of all necessary paperwork and notification required by well permit, including the State of Florida Well Completion Report.

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Well Abandonment/Site Restoration Report (Use Reports pay item).
- 7-1. Grout and Abandon Well, 1 to 2 inch diameter: [Per Foot].
- 7-2. Grout and Abandon Well, > 2 to 4 inch diameter: [Per Foot].
- 7-3. Grout and Abandon Well > 4 to 6 inch diameter: [Per Foot].
- 7-4. Grout and Abandon Well > 6 inch diameter: [Per Foot].
- 7-5. Removal of Well Vault – 2 x 2 x 2 foot: [Per Vault].
- 7-6. Removal of Well Vault – 4 x 4 x 2 foot: [Per Vault].
- 8. **SAMPLE COLLECTION AND FIELD TESTING:** The following pay items are for collection of samples and specified field testing. Groundwater sampling shall be in accordance with DEP Quality Assurance Groundwater Sampling Standard Operating Procedures (DEP-SOP-001/01, FS 2200 Groundwater Sampling) referenced in the Quality Assurance Rule, Chapter 62-160, F.A.C., and BPSS Procedure PCS-005, Groundwater Sampling Procedures Variances and Clarifications for Bureau of Petroleum Storage System Sites. Soil sampling shall be in accordance with DEP Quality Assurance General Sampling Procedures (DEP-SOP-001/01 FS 1000) referenced in the Quality Assurance Rule, Chapter 62-160, F.A.C., and BPSS Procedure PCS-004, Soil Sampling.

Unless otherwise specified, the following pay items INCLUDE:

- a. All equipment, material, and labor costs.
- b. Collection and preparation of samples by a qualified Field Technician for specified field test or shipment to laboratory for analysis.
- c. Shipping of samples to laboratory.
- d. Field Testing per specified pay item.
- e. Storage of recovered product prior to disposal.
- f. Field notes, chains-of-custody, and other appropriate sampling documentation.
- g. Collection of a sample for multiple laboratory and/or field analyses, split samples, and QA/QC samples.

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Laboratory analysis (Use Laboratory Analysis pay item).
- b. Product Disposal (Use Debris, Waste and Product Removal and Disposal pay item).
- 8-1. Monitoring Well Sampling with Water Level, ≤ 100 foot depth: [Per Well].
- 8-2. Monitoring Well Sampling with Water Level, > 100 foot depth: [Per Well].
- 8-3. Domestic Water Well Sampling: [Per Well].
- 8-4. Other Water Sampling: [Per Sample]. Surface water, tap water, etc.
- 8-5. Free Product Sample Collection: [Per Sample].

- 8-6. Soil/Sediment Sample Collection: [Per Sample].
- 8-7. Water Level/Free Product Gauging: [Per Well]. Includes depth to water, depth to product, and product thickness. Measurements shall be made to the nearest 0.01 foot.
- 8-8. Free Product Gauging and Bailing: [Per Well]. Includes depth to product and product thickness. Measurements shall be made to the nearest 0.01 foot.
- 8-9. Vapor/Ambient Air Sample Collection – Passive Dosimeter, Sorbent Tube, Tedlar™ Bag: [Per Sample].
- 8-10. Vapor/Ambient Air Sample Collection – SUMMA™ Canister (or equivalent): [Per Sample].
9. **LABORATORY ANALYSIS**: The following pay items are to provide laboratory analyses performed in accordance with the requirements set forth in Chapter 62-160, Florida Administrative Code (F.A.C.). In addition all laboratories must hold certification from the Department of Health (DOH) Environmental Laboratory Certification Program (ELCP) using standards established by the National Environmental Laboratory Accreditation Conference (NELAP) as specified in Ch. 64E, F.A.C., for each matrix/test method/analyte combination. Certain exceptions apply and can be found in the February 17, 2007 Guidance Memo BPSS Enforcement of Laboratory NELAP Certification Requirements.

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All equipment, material, and labor costs.
- b. Labor costs for qualified laboratory personnel to perform analysis.
- c. Up to fourteen (14) day turnaround time (begins when laboratory receives samples).
- d. All QA/QC protocols.
- e. Cost for extraction.
- f. Laboratory reports.
- g. Contractor data review.

Unless otherwise specified, the following pay items do **NOT INCLUDE**:

- a. Sample collection (Use Sample Collection pay item).
- b. Technical reports in which lab data is addressed (Use Reports pay item)

A. SOIL/SEDIMENT ANALYSIS:

- 9-1. Soil, Used Oil/Unknown Product Group-Table C of Ch. 62-780, F.A.C., except for non-Priority Pollutant Organics (Multiple Methods): [Per Sample].
- 9-2. Soil, BTEX + MTBE (EPA 8021 or EPA 8260): [Per Sample].
- 9-3. Soil, Volatile Organic Halocarbons (EPA 8021 or EPA 8260): [Per Sample].
- 9-4. Soil, BTEX + MTBE + VOHs (EPA 8021 or EPA 8260): [Per Sample].
- 9-5. Soil, Polycyclic Aromatic Hydrocarbons (EPA 8270 or EPA 8310): [Per Sample].
- 9-6. Soil, Priority Pollutant Volatile Organics (EPA 8260): [Per Sample].

- 9-7. Soil, Priority Pollutant Extractable Organics-Base Neutral and Acid Extractables (EPA 8270 list [e.g., EPA 8081/8082 + EPA 8270]): [Per Sample].
- 9-8. Soil, Total Recoverable Petroleum Hydrocarbons (FL-PRO): [Per Sample].
- 9-9. Soil, PCBs [or Aroclors] (EPA 8082): [Per Sample].
- 9-10. Soil, 8 RCRA Metals (EPA 6010 or EPA 6020 [Arsenic, Barium, Cadmium, Chromium, Lead, Silver] and EPA 6020 or EPA 7471 [Mercury]): [Per Sample].
- 9-11. Soil, Arsenic (EPA 6010 or EPA 6020): [Per Sample].
- 9-12. Soil, Cadmium (EPA 6010 or EPA 6020): [Per Sample].
- 9-13. Soil, Chromium (EPA 6010 or EPA 6020): [Per Sample].
- 9-14. Soil, Lead (EPA 6010 or EPA 6020): [Per Sample].
- 9-15. Soil, Toxicity Characteristic Leaching Procedure-Extraction Only (EPA 1311): [Per Sample].
- 9-16. Soil, Synthetic Precipitation Leaching Procedure-Extraction Only (EPA1312): [Per Sample].
- 9-17. Soil, Organic Carbon, Total (EPA 9060 or Walkey-Black): [Per Sample].
- 9-18. Soil, Dry Bulk Density (ASTM D1556-07, ASTM D2167-08, ASTM D2922-01, -04, -04e, -96e1 or ASTM D2937-10): [Per Sample].
- 9-19. Soil, Moisture Content (ASTM D2216-10): [Per Sample].
- 9-20. Soil, Texture (See Gee + Bauder [1966]): [Per Sample].
- 9-21. Soil, GC/MS Full Scan, Alkanes, Isoalkanes, Cycloalkanes, Aromatics, Bicyclane, Sterane, and Terpane Biomarkers (ASTM D5739 High Resolution GC/MS): [Per sample].
- 9-22. Soil, Gasoline Hydrocarbon Composition, Gasoline PIANO (paraffins, isoparaffins, aromatics, naphthenes and olefins) (EPA 8560Mod, High Resolution GC/MS): [Per sample].
- 9-23. Soil, 5 Fuel Oxygenates, MTBE, DIPE, TAME, ETBE and TBA (EPA 8260Mod, High Resolution GC/MS): [Per sample].
- 9-24. Soil, C10-C40 Alkane Fingerprint, N-Alkanes and Isoalkanes (ASTM D3328 GC/MS): [Per sample].

B. WATER ANALYSIS:

- 9-25. Water, Gasoline/Kerosene Analytical Group-Table B of Ch. 62-780, F.A.C. (Multiple Methods): [Per Sample].
- 9-26. Water, Used Oil/Unknown Product Group-Table C of Ch. 62-780, F.A.C., except for non-Priority Pollutant Organics (Multiple Methods): [Per Sample].

- 9-27. Water, BTEX + MTBE (EPA 602, EPA 624, EPA 8021 or EPA 8260): [Per Sample].
- 9-28. Water, Volatile Organic Halocarbons, except EDB (EPA 8021 or EPA 8260): [Per Sample].
- 9-29. Water, BTEX + MTBE + VOHs (EPA 601/602, EPA 624, EPA 6021 or EPA 8260): [Per Sample].
- 9-30. Water, Polycyclic Aromatic Hydrocarbons, including 1-methylnaphthalene + 2-methylnaphthalene (EPA 610 [HPLC], EPA 625, EPA 8270 or EPA 8310): [Per Sample].
- 9-31. Water, EDB [1,2-dibromoethane or ethylene dibromide] (EPA 504.1 or EPA 8011): [Per Sample].
- 9-32. Water, Priority Pollutant Volatile Organics [for NPDES purposes only] (EPA 624): [Per Sample].
- 9-33. Water, Priority Pollutant Volatile Organics (EPA 8260): [Per Sample].
- 9-34. Water, Priority Pollutant Extractable Organics-Base Neutral and Acid Extractables [for NPDES purposes only] (EPA 625 list [e.g., EPA 608 + EPA 625]): [Per Sample].
- 9-35. Water, Priority Pollutant Extractable Organics-Base Neutral and Acid Extractables (EPA 8270 list [e.g., EPA 8081/8082 + EPA 8270 or EPA 608 + EPA 8270]): [Per Sample].
- 9-36. Water, Total Recoverable Petroleum Hydrocarbons (FL-PRO): [Per Sample].
- 9-37. Water, PCBs [or Aroclors] (EPA 608 or EPA 8082): [Per Sample].
- 9-38. Water, Arsenic, Total (EPA 200.7, EPA 200.8, EPA 6010 or EPA 6020): [Per Sample].
- 9-39. Water, Cadmium, Total (EPA 200.7, EPA 200.8, EPA 6010 or EPA 6020): [Per Sample].
- 9-40. Water, Chromium, Total (EPA 200.7, EPA 200.8, EPA 6010 or EPA 6020): [Per Sample].
- 9-41. Water, Lead, Total (EPA 200.7, EPA 200.8, EPA 6010 or EPA 6020): [Per Sample].
- 9-42. Water, Mercury, Total (EPA 245.1, EPA 6020 or EPA 7470): [Per Sample].
- 9-43. Water, Calcium, Total (EPA 200.7, EPA 6010 or EPA 6020): [Per Sample].
- 9-44. Water, Iron, Total (EPA 200.7, EPA 6010 or EPA 6020): [Per Sample].
- 9-45. Water, Magnesium, Total (EPA 200.7, EPA 6010 or EPA 6020): [Per Sample].
- 9-46. Water, Manganese, Total (EPA 200.7, EPA 200.8, EPA 6010 or EPA 6020): [Per Sample].
- 9-47. Water, Potassium, Total (EPA 200.7, EPA 6010 or EPA 6020): [Per Sample].
- 9-48. Water, Sodium, Total (EPA 200.7, EPA 6010 or EPA 6020): [Per Sample].
- 9-49. Water, Alkalinity [as CaCO₃] (EPA 310.2 or SM 2320 B): [Per Sample].

- 9-50. Water, Ammonia [as N] (EPA 350.1, SM 4500-NH3 C, SM 4500-NH3 D, SM 4500-NH3 G or SM 4500-NH3 H): [Per Sample].
- 9-51. Water, Chloride (EPA 300.0, EPA 9056, EPA 9251, EPA 9053, SM 4500Cl B, SM 4500Cl C or SM 4500Cl E): [Per Sample].
- 9-52. Water, Hardness, Total [as CaCO3] (SM 2340 B or SM 2340 C): [Per Sample].
- 9-53. Water, Nitrate [as N] (EPA 300.0 or EPA 353.2): [Per Sample].
- 9-54. Water, Nitrate-Nitrite [as N] (EPA 300.0, EPA 353.2, SM 4500-NO3 E or SM 4500-NO3 F): [Per Sample].
- 9-55. Water, Nitrite [as N] (EPA 300.0, EPA 300.1, SM 4500-NO2 B or SM 4500-NO3 F): [Per Sample].
- 9-56. Water, Organic Carbon, Total (SM 5310 B, SM 5310 C or EPA 9060): [Per Sample].
- 9-57. Water, Orthophosphate [as P] (EPA 300.0, EPA 300.1, EPA 365.1, EPA 365.3, EPA 9056, SM 4500-PE or SM 4500-PF): [Per Sample].
- 9-58. Water, Residue-filterable [Total Dissolved Solids] (SM 2540 C): [Per Sample].
- 9-59. Water, Residue-nonfilterable [Total Suspended Solids] (SM 2540 D): [Per Sample].
- 9-60. Water, Sulfate (ASTM D516-02, ASTM D516-90, EPA 300.0, EPA 300.1, EPA 375.2, EPA 9038, EPA 9056 or SM 4500-SO4 C): [Per Sample].
- 9-61. Water, Heterotrophic Plate Count (SM 9215 B): [Per Sample].
- 9-62. Water, Acute Bioassay-96 Hour, Freshwater, Vertebrate/Invertebrate [Vertebrate: *Pimephales promelas* or *Cyprinella leedsi*/Invertebrate: *Ceriodaphnia dubia*] (EPA 2000.0/2002.0): [Per Sample].
- 9-63. Water, Acute Bioassay-96 Hour, Estuarine + Marine, Vertebrate/Invertebrate [Vertebrate: *Menidia beryllina*, *Meridia menidia* or *Menida peninsulæ*/Invertebrate: *Mysidopsis bahia*] (EPA 2006.0/2007.0): [Per Sample].
- 9-64. Water, GC/MS Full Scan, Alkanes, Isoalkanes, Cycloalkanes, Aromatics, Bicyclane, Sterane, and Terpane Biomarkers (ASTM D5739 High Resolution GC/MS): [Per sample].
- 9-65. Water, Gasoline Hydrocarbon Composition, Gasoline PIANO [paraffins, isoparaffins, aromatics, naphthenes and olefins] (EPA 8560Mod, High Resolution GC/MS): [Per sample].
- 9-66. Water, 5 Fuel Oxygenates, MTBE, DIPE, TAME, ETBE and TBA (EPA 8260Mod, High Resolution GC/MS): [Per sample].
- 9-67. Water, C10-C40 Alkane Fingerprint, N-Alkanes and Isoalkanes (ASTM D3328 GC/MS): [Per sample].

C. AIR ANALYSIS:

- 9-68. Air, Total Petroleum Hydrocarbons (Method 18 or TO-3): [Per Sample].
- 9-69. Air, Volatile Organic Aromatics (EPA Method TO-15): [Per Sample].
- 9-70. Air, Polycyclic Aromatic Hydrocarbons-Semi-volatiles (EPA Method TO-13): [Per Sample].
- 9-71. Air, Polycyclic Aromatic Hydrocarbons-Semi Volatiles (EPA Method TO-17): [Per Sample].

D. PRODUCT ANALYSIS:

- 9-72. Product, C3-C44 Hydrocarbon Fingerprint, Gasoline PIANO [paraffins, isoparaffins, aromatics, naphthenes and olefins], alkanes and isoalkanes (ASTM D3328 High Resolution GC/FID): [Per sample].
- 9-73. Product, GC/MS Full Scan, alkanes, isoalkanes, cycloalkanes, aromatics, bicyclane, sterane, and terpane biomarkers (ASTM D5739 High Resolution GC/MS): [Per sample].

E. OTHER ANALYSIS:

- 9-74. Other Laboratory Analysis, Not Otherwise Specified: [Reimbursable]. Justification must be provided.
- 9-75. Additional Laboratory Charge for 7 Day Turnaround: [Per Sample]. Justification must be provided.
- 9-76. Additional Laboratory Charge for 3 Day Turnaround: [Per Sample]. Justification must be provided.
- 9-77. Additional Laboratory Charge for 1 Day Turnaround: [Per Sample]. Justification must be provided.

10. SOIL SOURCE REMOVAL RELATED: The following pay items are used to dewater, excavate and/or remove soil/material, backfill and compact the excavation area. The scope of the soil source removal must be approved by the DEP Project Manager prior to initiating work.

NOTE: These pay items will not be used for tank removals and/or trenching (see Tank Removal and Trenching Pay Items).

NOTE: Contractor is responsible for correcting any issues associated with flowable fill, backfill, and compaction that may arise such as subsidence, cracking of concrete or pavement, etc., including mobilizations, personnel, material and equipment.

Unless otherwise specified, the following pay items INCLUDE:

- a. All equipment, material, and labor costs.
- b. Acquisition of all required permits, excluding actual permit fee.
- c. Field oversight by a qualified Engineer or Geologist.
- d. Onsite temporary storage of soil/material (e.g., roll off box).
- e. Small on-site storage tanks \leq 2,000 gallon capacity.

- f. Sampling/testing of backfill and/or flowable fill per specification
- g. Complying with OSHA safety requirements.
- h. Temporary Security Fencing.
- i. Safety Devices (barricades, lights, signs, concrete barriers, trench boxes and plates).
- j. Stormwater/erosion control measures.

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Mobilization of Personnel and Equipment to and from site (Use Mobilization pay item).
 - b. Debris, waste and product removal and/or disposal (Use Debris, Waste and Product Removal and Disposal pay item).
 - c. Concrete and asphalt replacement (Use Resurfacing pay item).
 - d. Sample Collection of effluent or waste or for classification (Use Sample Collection pay item).
 - e. Laboratory analysis of effluent for waste for classification (Use Laboratory Analysis pay item).
 - f. Actual permit fees (Use Permit Fees [Reimbursable] pay item).
 - g. Large on-site holding tanks (Use Remedial Action Equipment - Use pay item).
 - h. On-Site Water Treatment (Use Remedial Action – Packaged Work Scopes pay item).
 - i. Tank Removal (Use Petroleum Storage Tank Removal and Disposal pay item).
- 10-1. Sheet Piling for ≤ 20 feet deep excavation (per linear foot): [Per Foot/Day]. This pay item is for installation of sheet piling to facilitate a 20 feet deep excavation and usage on a daily basis.
- 10-2. Sheet Piling for ≤ 20 feet deep excavation (per linear foot): [Per Foot/Week]. This pay item is for installation of sheet piling to facilitate a 20 feet deep excavation and usage on a weekly basis.
- 10-3. Sheet Piling for ≤ 20 feet deep excavation (per linear foot): [Per Foot/Month]. This pay item is for installation of sheet piling to facilitate a 20 feet deep excavation and usage on a monthly basis.
- 10-4. Sheet Piling for > 20 feet deep excavation (per linear foot): [Per Foot/Day]. This pay item is for installation of sheet piling to facilitate a greater than 20 feet deep excavation and usage on a daily basis.
- 10-5. Sheet Piling for > 20 feet deep excavation (per linear foot): [Per Foot/Week]. This pay item is for installation of sheet piling to facilitate a greater than 20 feet deep excavation and usage on a weekly basis.
- 10-6. Sheet Piling for > 20 feet deep excavation (per linear foot): [Per Foot/Month]. This pay item is for installation of sheet piling to facilitate a greater than 20 feet deep excavation and usage on a monthly basis.
- 10-7. Conventional Soil Excavation and Loading ≤ 300 cubic yards: [Per Cubic Yard]. This pay item is for excavation and loading of soils for a conventional excavation of up to 300 cubic yards.
- 10-8. Conventional Soil Excavation and Loading > 300 cubic yards: [Per Cubic Yard]. This pay item is for excavation and loading of soils for a conventional excavation exceeding 300 cubic yards.
- 10-9. LDA Excavation and Loading Without Casing ≤ 300 cubic yards: [Per Cubic Yard]. This pay item is for excavation and loading of soils for a Large Diameter Auger (LDA) excavation of up to 300 cubic yards without the use of supportive casing.

- 10-10. LDA Excavation and Loading Without Casing > 300 cubic yards: [Per Cubic Yard]. This pay item is for excavation and loading of soils for a LDA excavation exceeding 300 cubic yards without the use of supportive casing.
- 10-11. LDA Excavation and Loading With Casing ≤ 300 cubic yards: [Per Cubic Yard]. This pay item is used for excavation and loading of soils for a LDA excavation of up to 300 cubic yards with the use of supportive casing.
- 10-12. LDA Excavation and Loading With Casing > 300 cubic yards: [Per Cubic Yard]. This pay item is for excavation and loading of soils for a LDA excavation exceeding 300 cubic yards with the use of supportive casing.
- 10-13. Flowable Fill Concrete and Installation: [Per Cubic Yard]. This pay item is for flowable fill concrete material and installation. The flowable fill shall meet the strength requirements specified in the Remedial Action Plan. Includes costs for compressive strength testing.
- 10-14. Clean Backfill Material, Compaction and Testing ≤ 300 cubic yards: [Per Cubic Yard]. This pay item includes the purchase, transportation, installation, compaction and compaction testing of backfill material for a conventional excavation of up to 300 cubic yards.
- 10-15. Clean Backfill Material, Compaction and Testing > 300 cubic yards: [Per Cubic Yard]. This pay item includes the purchase, transportation, installation, compaction and compaction testing of backfill material for a conventional excavation exceeding 300 cubic yards.
- 10-16. Pea Gravel: [Per Cubic Yard]. This pay item includes the purchase, transportation and installation of pea gravel where such material is specified.
- 10-17. #57 Stone: [Per Cubic Yard]. This pay item includes the purchase, transportation and installation of #57 stone when such course aggregate material is specified.
- 10-18. Dewatering System, up to 12 well points: [Per Day]. This pay item is to install, operate, monitor and dismantle a dewatering system with up to 12 dewatering points capable of dewatering to a depth of 25 feet bls. Not to be used for single point dewatering using a trash pump or sump pump.
- 10-19. Additional Dewatering System Well Points (2): [Per Day]. This pay item is for adding two additional well points to the daily dewatering system pay item.
- 10-20. Dewatering System, up to 12 well points: [Per Week]. This pay item is to install, operate, monitor and dismantle a dewatering system with up to 12 dewatering points capable of dewatering to a depth of 25 feet bls. Not to be used for single point dewatering using a trash pump or sump pump.
- 10-21. Additional Dewatering System Well Points (2): [Per Week]. This pay item is for adding two additional well points to the weekly dewatering system pay item.
- 10-22. Dewatering System, up to 12 well points: [Per Month]. This pay item is to install, operate, monitor and dismantle a dewatering system with up to 12 dewatering points capable of dewatering to a depth of 25 feet bls. Not to be used for single point dewatering using a trash pump or sump pump.
- 10-23. Additional Dewatering System Well Points (2): [Per Month]. This pay item is for adding two additional well points to the monthly dewatering system pay item.

11. **PETROLEUM STORAGE TANK SYSTEM REMOVAL AND DISPOSAL:** The following pay items are for the emptying, cleaning, removal and disposal of petroleum storage tank systems of specified capacity by a certified Florida Petroleum Storage System Specialty Contractor and are only allowed if tank removal is determined by the DEP to be integral to site rehabilitation.

Unless otherwise specified, the following pay items **INCLUDE:**

- a. All equipment, material, and labor costs.
- b. Acquisition of all required permits, excluding actual permit fee.
- c. Field oversight by a certified Florida Petroleum Storage System Specialty Contractor.
- d. Emptying residual product, water and sludge from the storage tank.
- e. Draining and removing or capping integral piping.
- f. Transportation and proper disposal/recycling.
- g. Completion of waste manifests.
- h. Completion of required Storage Systems Closure forms and notices required by Ch. 62-761, F.A.C.

Unless otherwise specified, the following pay items do **NOT INCLUDE:**

- a. Mobilization of Personnel and Equipment to and from site (Use Mobilization pay item).
- b. Actual permit fees (Use Reimbursable pay item).
- c. Sample Collection of waste or for classification (Use Sample Collection pay item).
- d. Laboratory analysis of waste for classification (Use Laboratory Analysis pay item).
- e. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).

- 11-1. **Remove and Dispose Petroleum Storage Tank - ≤ 1,000 gal. capacity:** [Per Tank]: This pay item includes evacuation of vapors within tank, removal and disposal of residual petroleum product, contact water and sludge, cleaning and dismantling of tank, draining and removal or capping of integral piping and dispenser, and removal and disposal of tank.
- 11-2. **Remove and Dispose Petroleum Storage Tank - > 1,000 to 5,000 gal. capacity:** [Per Tank]: This pay item includes evacuation of vapors within tank, removal and disposal of residual petroleum product, contact water and sludge, cleaning and dismantling of tank, draining and removal or capping of integral piping and dispenser, and removal and disposal of tank.
- 11-3. **Remove and Dispose Petroleum Storage Tank - > 5,000 to 10,000 gal. capacity:** [Per Tank]: This pay item includes evacuation of vapors within tank, removal and disposal of residual petroleum product, contact water and sludge, cleaning and dismantling of tank, draining and removal or capping of integral piping and dispenser, and removal and disposal of tank.
- 11-4. **Remove and Dispose Petroleum Storage Tank - > 10,000 gal. capacity:** [Per Tank]: This pay item includes evacuation of vapors within tank, removal and disposal of residual petroleum product, contact water and sludge, cleaning and dismantling of tank, draining and removal or capping of integral piping and dispenser, and removal and disposal of tank.

12. **DEBRIS, WASTE AND PRODUCT REMOVAL AND DISPOSAL:** The following pay items are for transporting, disposing, recycling, and treating of concrete asphalt and other debris, petroleum contaminated waste and petroleum product. It is the Contractor's responsibility to properly classify and dispose of waste at an appropriate, properly registered facility in accordance with federal and state regulations. Disposal/recycling should be accomplished as soon as laboratory analyses indicate which disposal/recycling facility is appropriate. Prior to disposal, the Contractor shall provide justification of

landfill/facility selection and comparison to disposal versus treatment/reuse options to DEP. Selection of disposal using drums vs. bulk rates shall be determined by the best value to the State. Selection of a site-specific disposal method for clean soil requires pre-approval by the DEP Project Manager. The Contractor shall oversee waste loading and sign the manifest. The delivery ticket with the actual volume of material shall be used to document the quantity of wastes disposed.

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All equipment, material, and labor costs.
- b. Field oversight by a qualified Field Technician.
- c. Drums and containers used for storage and/or transport.
- d. Completion of waste manifests.
- e. Labeling of drum(s) and container(s) – Labels shall identify 1) waste category and classification, 2) container contents, 3) site facility identification number, 4) contractor name and telephone number, and 5) dates of accumulation.

Unless otherwise specified, the following pay items do **NOT INCLUDE**:

- a. Mobilization of personnel and equipment to and from site (Use Mobilization pay item)
- b. Sample collection for waste classification (Use Sample Collection pay item)
- c. Laboratory analysis for waste classification (Use Laboratory Analyses pay)

- 12-1. Removal and Loading of Asphalt and/or Concrete – up to 4 inch thickness: [Per Square Foot]. This pay item is to remove and load pre-existing asphalt and/or concrete up to 4 inch thickness.
- 12-2. Additional Removal/Loading Cost for Concrete - > 4 inch thickness: [Per Square Foot]. This pay item is for additional costs to remove and load concrete greater than 4 inch thickness with or without rebar reinforcement.
- 12-3. Load, Transport and Disposal/Recycle Clean Overburden: [Per Cubic Yard]. This pay item is for loading, transportation and disposal/recycling of clean overburden soil that cannot be re-used on-site.
- 12-4. Transport and Disposal of Clean Concrete: [Per Cubic Yard]. This pay item is for transportation and disposal/recycling of clean concrete debris (absent of other materials such as rebar, etc.).
- 12-5. Transport and Disposal of Mixed Debris: [Per Ton]. This pay item is for transportation and disposal of mixtures of concrete, asphalt, rebar and other construction debris.
- 12-6. Transport and Disposal of Petroleum Impacted Soil (includes drum): [Per Drum]. This pay item is for transportation and proper disposal of petroleum impacted soil at an appropriate, registered disposal facility and includes one 55-gallon capacity drum.
- 12-7. Transport Petroleum Impacted Soil (bulk) ≤ 100 miles: [Per Ton]. This pay item is for transportation of impacted soil from the site to an appropriate, properly registered disposal facility within 100 miles.
- 12-8. Transport of Petroleum Impacted Soil (bulk) > 100 miles: [Per Ton]. This pay item is for transportation of impacted soil from the site to an appropriate, properly registered disposal facility more than 100 miles.

- 12-9. Disposal of Petroleum Impacted Soil at a Landfill (bulk) ≤ 450 tons: [Per Ton]. This pay item is for proper disposal of petroleum impacted soil at a landfill facility meeting Ch. 62-713, F.A.C., permitting requirements.
- 12-10. Disposal of Petroleum Impacted Soil at a Landfill (bulk) > 450 tons: [Per Ton]. This pay item is for proper disposal of petroleum impacted soil at a landfill facility meeting Ch. 62-713, F.A.C., permitting requirements.
- 12-11. Disposal of Petroleum Impacted Soil at a Thermal Treatment Facility (bulk) ≤ 450 tons: [Per Ton]. This pay item is for proper disposal of petroleum impacted soil at a thermal treatment facility meeting Ch. 62-713, F.A.C., permitting requirements.
- 12-12. Disposal of Petroleum Impacted Soil at a Thermal Treatment Facility (bulk) > 450 tons: [Per Ton]. This pay item is for proper disposal of petroleum impacted soil at a thermal treatment facility meeting Ch. 62-713, F.A.C., permitting requirements.
- 12-13. Transport and Disposal of Petroleum Contact Water (includes drum): [Per Drum]. This pay item is for transport and proper disposal of petroleum contact water at an appropriate, registered disposal facility and includes one 55-gallon capacity drum.
- 12-14. Transport and Disposal of Petroleum Contact Water (bulk): [Per Gallon]. This pay item is for transport and proper disposal of petroleum contact water at a permitted disposal facility or sewer system.
- 12-15. Transport and Disposal of Petroleum Product: [Per Drum]. This pay item is for transport and proper disposal/recycling of petroleum product at an appropriate, registered disposal/recycling facility and includes one 55-gallon capacity drum.
- 12-16. Transport and Disposal of Petroleum Product (bulk): [Per Gallon]. This pay item is for the transport and proper disposal/recycling of bulk petroleum product at an appropriate, registered disposal/recycling facility.
13. RESURFACING: The following pay items are for the replacement of site surface cover destroyed during cleanup related activities (asphalt, concrete, crushed lime rock, sod and seed).

Unless otherwise specified, the following pay items **INCLUDE:**

- a. All equipment, material, and labor costs.
- b. Field oversight by a qualified Field Specialist or Field Technician.

Unless otherwise specified, the following pay items do **NOT INCLUDE:**

- a. Mobilization of personnel and equipment to and from site (Use Mobilization pay item).

- 13-1. Asphalt Paving - 2 inch thickness (includes sub-base): [Per Square Foot]. This pay item includes all costs associated with the installation of replacement asphalt of 2 inch thickness.
- 13-2. Asphalt Paving-additional 1 inch thickness: [Per Square Foot]. This pay item includes all costs associated with the installation of additional replacement asphalt of 1 inch thickness.

- 13-3. Concrete Paving - 4 inch thickness (includes sub-base): [Per Square Foot]. This pay item includes all costs associated with the installation of replacement concrete. The concrete will meet the strength/reinforcement requirements specified in the Remedial Action Plan. Includes costs for compression testing.
- 13-4. Concrete Paving - additional 1 inch thickness: [Per Square Foot]. This pay item includes all costs associated with the installation of additional replacement concrete of 1 inch thickness.
- 13-5. Crushed Lime Rock Cover - 2 inch thickness: [Per Square Foot]. This pay item includes all cost associated with the installation of crushed lime rock cover (not as sub base for pavement or concrete).
- 13-6. Grass - Sod: [Per Square Foot]. This pay item includes all costs associated with the installation of replacement grass sod material.
- 13-7. Grass - Seed and Mulch: [Per Square Foot]. This pay item includes all costs associated with grass seeding and mulching.
14. IN-SITU INJECTION: The following pay item is for in-situ injection using direct push borings in accordance with an approved remedial action plan.

NOTE: Underground injection wells, including air sparge wells, are exempt from Water Management District permit fees pursuant to Chapter 373, F.S., and are permitted by the DEP technical approval order. Where such exemptions exist, permit fees are not required and will not be reimbursable under this contract.

Unless otherwise specified, the following pay items **INCLUDE:**

- a. All equipment, material, and labor costs.
- b. Field oversight by a qualified Field Technician.
- c. Direct push boring (if using DP option).
- d. Acquisition of all required permits, excluding actual permit fee (If applicable, see Note above).
- e. Injection material preparation and/or mixing.
- f. Injection/application of material.
- g. Grout sealing the boreholes (if using DP option).
- h. Setup and dismantling the injection equipment.

Unless otherwise specified, the following pay items do **NOT INCLUDE:**

- a. Mobilization of personnel and equipment to and from site (Use Mobilization pay item).
- b. Actual permit fees (If applicable, see Note above, use Reimbursable pay item).
- c. Material to be injected (Use Reimbursable pay item).
- d. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).
- e. Monitoring (Use Sample Collection pay item).
- f. Analyses (Use Laboratory Analysis pay item).
- g. Remedial Action General or Interim Report (Use Reports pay item).

- 14-1. Direct Push Boring with In-Situ Injection: [Per Foot].
- 14-2. In-Situ Injection Into Existing Well/Treatment Point: [Per Injection Point].

14-3. Materials to be Injected: [Reimbursable].

15. **REMEDIAL ACTION CONSTRUCTION**: The following pay items are for all inclusive activities associated with the installation of remediation systems in accordance with the approved remedial action plan in two parts; trenching, and system integration and startup. Trenching includes the shallow trenching, installation and testing of plumbing and electrical equipment between the remediation system components and treatment/recovery points. System integration and startup includes installation of treatment equipment, connection and testing of all plumbing and electrical components to pre-treatment, treatment and telemetry equipment, utilities, discharge points and treatment/recovery points within the remediation system, and system startup.

NOTE: Contractor is responsible for correcting any issues associated with backfill and compaction that may arise such as subsidence, cracking of concrete or pavement, etc., including mobilizations, personnel, material and equipment.

A. Trenching

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All equipment, material, and labor costs.
- b. Field oversight by a qualified Remediation Technician or Field Technician.
- c. Trenching.
- d. Installation and testing of up to six (8) liquid, vapor and/or air plumbing lines including all electrical equipment.
- e. Pea gravel, backfill material, and poly sheeting.
- f. Backfilling and compacting.
- g. Compaction testing.
- h. Debris removal.

Unless otherwise specified, the following pay items do **NOT INCLUDE**:

- a. Mobilization of personnel and equipment to and from site (Use Mobilization pay item).
- b. Plumbing and electrical materials/equipment installed in trench (Use Reimbursable pay item).
- c. Concrete or asphalt replacement (Use Resurfacing pay item).

15-1. Trenching and Installation of Plumbing (and Electrical) Lines in Trench: [Per Linear Foot]. For up to up to 8 liquid/vapor/air plumbing lines. Electrical lines are not counted in determination of cost.

15-2. Trenching and Installation - Additional 2 plumbing lines: [Per Linear Foot].

15-3. Plumbing and Electrical Materials/Equipment Installed in Trench: [Reimbursable].

B. **Remediation System Integration and Startup**: The following pay items will be used for the installation and integration of remediation system equipment, connection and testing of all plumbing and electrical components to pre-treatment, treatment and telemetry equipment, utilities, discharge points and treatment/recovery points within the remediation system, and initial system startup for three days. These pay items are generally not applicable to pilot tests and may not be applicable to certain types of short term/episodic remedial events that do not require the full scope of work listed.

NOTE: System startup included in this pay item represents the initial startup following construction and is not applicable to subsequent system startups following down time for repair, sampling, system modification etc.

NOTE: Technology components include groundwater recovery separate from multiphase, air sparge, soil vapor extraction and multi-phase. Add on components including carbon treatment and thermox/catox treatment are not considered to be separate "technology components" for the purpose of determining the applicable pay items in this category.

NOTE: Additional costs will not be approved during the startup period unless major modifications involving additional equipment are necessary. Additional costs for systems with previously used components will be considered on a case-by-case basis.

Unless otherwise specified, the following pay items INCLUDE:

- a. All equipment, material, and labor costs.
- b. Startup assistance, if necessary, by equipment manufacturer/vendor/specialist.
- c. Field oversight by qualified Remediation Technician.
- d. Review and project coordination per approved RAP.
- e. Setting up utility accounts.
- f. Installing pumps, compressors and blowers, including well plumbing and electrical.
- g. Integrating one (1) technology component the remediation system and connecting manifolds to the system, including plumbing and electrical.
- h. Connecting up eight (8) recovery/treatment wells/points to the plumbing/electrical lines and manifolds.
- i. Connecting utilities to the remediation system and the system to a discharge point.
- j. Installing groundwater pre-treatment unit to prevent scale/bacteria build-up.
- k. Installing catox/thermox vapor treatment equipment, if applicable.
- l. Installing telemetry unit for remote access to system.
- m. Testing and trouble-shooting the system, including optimizing and re-evaluating system performance during the startup period.

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Mobilization of personnel and equipment to and from site (Use Mobilization pay item).
- b. Project oversight and evaluation by a Florida registered P.E. (Use negotiated costs).
- c. Remediation System Equipment (Use Packaged Work Scopes or Remediation System Use Pay items).
- d. Trenching and installation of plumbing and electrical in trenches (Use Trenching pay item).
- e. Treatment/recovery wells (Use Drilling and Boring and Well Installation pay items).
- f. Installation of well vaults (Use Well Installation pay item).
- g. Compound construction/fencing (Use Reimbursable pay item).
- h. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).
- i. Chemicals for groundwater pre-treatment (Use Reimbursable pay item).

- 15-4. System Installation/Integration/Startup – 1 technology component - up to eight (8) recovery/treatment points: [Per Integration/Startup].

15-5. System Installation/Integration/Startup – Addition of 1 technology component: [Per Additional Tech Component].

15-6. System Installation/Integration/Startup – Addition of 2 recovery/treatment points: [Per 2 Recovery/Treatment Points].

16. **REMEDIAL ACTION – PACKAGED WORK SCOPES (Including Remediation System Equipment):**

The following pay items are for providing turnkey packages of remediation system equipment, other equipment and personnel to operate, monitor, troubleshoot and optimize performance for the specified time events/time periods and have been separated into two categories; Pilot Testing Packages and Short Term/Episodic Event System Operation Packages.

A. **Pilot Testing Packages (Including Remediation System Equipment):** The following pay items are all inclusive packages, including personnel, remediation system equipment and other equipment, liquid storage, oil-water separation, pre-treatment, carbon treatment and/or off-gas treatment necessary to conduct pilot testing where warranted and in accordance with an approved pilot test plan and the following guidance: BPSS-2 – In Situ Sparging; Pilot Studies, Design Requirements (5/1/98), BPSS-4 – Vacuum Extraction, Multi-Phase Extraction, Pilot Studies, Air Emissions Treatment and Monitoring Requirements (5/10/00); BPSS-12 – Pilot Test Guidelines for Preapproval Program Sites (2/3/04), BPSS-12A – In-Situ Air Sparging Pilot Test Guidance (9/2/03), BPSS-12B – Soil Vapor Extraction Pilot Test Guidance (9/2/03); BPSS – 12C – Biosparge Pilot Test Guidance (9/2/03); BPSS-12D – Multi-Phase Extraction Pilot Test Guidance (9/2/03); BPSS-12E – Bioventing Pilot Test Guidance; and BPSS-12F – Groundwater Recovery System Pumping Test Guidance. All equipment repairs or parts replacement required during the pilot test are the responsibility of the Contractor.

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All equipment, material, and labor costs.
- b. Field oversight by a qualified Field Specialist or Field Technician
- c. All required measurements and sampling of all applicable media for recovery/treatment/collection points including temperatures, pressures, vacuums, flow rates, volumes, DO, CO₂, water and FP levels, radius of influence, etc.
- d. System capability for any liquid storage, oil-water separation, pre-treatment, carbon treatment and/or off-gas treatment that may be required.
- e. All necessary repair and replacement of pilot test equipment.
- f. All chemicals and gases required for test.
- g. All down well groundwater pumps, if applicable.

Unless otherwise specified, the following pay items do **NOT INCLUDE**:

- a. Mobilization of personnel and equipment to and from site (Use Mobilization pay item).
- b. Project oversight by a Florida registered P.E. (Use negotiated costs).
- c. Treatment/recovery/observation wells (Use Drilling and Boring and Well Installation pay items).
- d. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).
- e. Concrete or asphalt installation/replacement require for or as a result of pilot test (Use Resurfacing pay item).
- f. Pilot Test Plans and Reports (Use Reports pay item).

- 16-1. Groundwater Recovery System Pilot Test - 8 hours: [Per Test].
- 16-2. Groundwater Recovery System Pilot Test - Additional Time: [Per 2 Hrs].
- 16-3. Air Sparging or Biosparging Pilot Test - 8 hours: [Per Test].
- 16-4. Air Sparging or Biosparging Pilot Test - Additional Time: [Per 2 Hrs].
- 16-5. Vapor Extraction Pilot Test - 8 hours : [Per Test].
- 16-6. Vapor Extraction Pilot Test - Additional Time: [Per 2 Hrs].
- 16-7. Vapor Extraction/Aquifer Pumping Test - 8 hours: [Per Test].
- 16-8. Vapor Extraction/Aquifer Pumping Test - Additional Time: [Per 2 Hrs].
- 16-9. Air Sparging/Vapor Extraction Pilot Test - 8 hours: [Per Test].
- 16-10. Air Sparging/Vapor Extraction Pilot Test - Additional Time: [Per 2 Hrs].
- 16-11. Multi-Phase Pilot Test - 8 hours: [Per Test].
- 16-12. Multi-Phase Pilot Test - Additional Time: [Per 2 Hrs.]

B. Short Term/Episodic System Operation Packages (Including Remediation System Equipment): The following pay items are all inclusive packages of mobilization, Per Diem, labor, materials and equipment, including remediation system equipment, liquid storage, oil-water separation, pre-treatment, flow equalization, carbon polishing treatment and, if applicable, off-gas treatment for conducting operation, monitoring, system related sampling, maintenance, trouble shooting, minor repairs and parts replacements for remediation systems on a daily or weekly basis in accordance with the approved RAP/RAPMOD and applicable guidance. This pay item also includes ongoing engineering evaluation and system optimization and recording of major component run times based on clock meter readings. Major and minor equipment repairs or parts replacement are the responsibility of the Contractor. DEP Project Manager shall be contacted within 72 hours of any changes to system status.

NOTE: Remediation systems shall have a minimum operational runtime of 80% of the approved design run time for all major components based on clock meter readings. For runtime of less than 80% of the approved design run time for all major components during the pay item time frame, the pay item will be invoiced at the amount equal to the percentage runtime using the following method: multiply the full pay item amount times the actual runtime percentage = invoice amount (e.g., if runtime is 75%, only 75% of the full pay item amount will be paid).

General Remediation System Requirements: All system designs must incorporate all applicable OSHA and electrical safety standards including National Electrical Code and NFPA standards, and be UL certified or equivalent. Systems must include control panels with telemetry capable of remote monitoring and operation (except in cases where the system will be monitored by personnel on-site), phase monitors, intrinsically safe barriers for all switches (i.e. thermal overload, full tank pump shut off, interlock that prevents operation of the air sparging system in the event the VES is not operating, etc.), surge and lightning protection, portable ventilated weather resistant enclosure in the form of skid mounted building or enclosed trailer, freeze protection, hurricanes straps and

anchors, gauges, meters, totalizers and run time hour meters for each major component to verify operation within required specifications. Systems shall also include means of noise reduction to limit noise levels to 65 dB or less at 10 feet.

Groundwater Treatment System Requirements: System must include a control panel, multi-well inlet manifold, oil/water separator, equalization tank, transfer pump, tray air stripper with blower, carbon polishing capability, inlet and outlet ports, valves, totalizing flow meters, switches, thermal overload and overflow shut off capability.			
System Size	Minimum Water Flow Capacity (GPM)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Medium	150	10	750

Air Sparging System Requirements: System must provide compressed oil free air at a temperature compatible with schedule 40 PVC pipe. The system must include control panel, applicable filters, a manifold to distribute air to each air sparging well, and means to measure air flow and pressure to each air sparging well, a pressure relief valve, discharge silencers/noise control, and a means of condensate removal.			
System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Medium	10	10	150

Vapor Extraction System Requirements: The system must include a SVE blower/pump, air dilution valves, vacuum relief valves, transfer pump, moisture separator device, telemetry, control panel and applicable filters and meters. The system must include the capacity to add and remove vapor treatment equipment as needed. The system must include a manifold to withdraw air from VE wells and include sampling port for all applicable parameters.			
System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Medium	10	10	250

Air Sparging/Soil Vapor Extraction System Requirements: System must provide oil free air at a temperature compatible with schedule 40 PVC pipe. The system must include a manifold to distribute and measure air flow and pressure to each air sparging well. The system must include a moisture separator device. The system must include a manifold to withdraw air from vacuum extraction (VE) wells and include sampling port for all applicable parameters. The system must include an interlock that prevents operation of the air sparging system in the event the VES is not operating.			
System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Medium	See individual specs for AS and SVE above		

Multi Phase Extraction System Requirements: System must include MPE blower or pump, heat exchanger, moisture separator, vacuum relief, and air stripper. The system must include the capacity to add and remove vapor treatment equipment as needed. The system must include a manifold to withdraw air and water from MPE wells and include sampling ports for all applicable parameters.			
System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Medium	10 to 20	10 to 20	60 to 150

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All equipment, material, and labor costs.
- b. Mobilization of personnel, systems and associated equipment to and from site.
- c. Per Diem for personnel travel, if applicable.
- d. System operation, troubleshooting, minor and major repairs and replacement, evaluation and optimization.
- e. System capability for any liquid storage, oil-water separation, pre-treatment, carbon treatment and/or off-gas treatment that may be required.
- f. All down well groundwater pumps, if applicable.
- g. Collection of all required system related measurements samples including recovery/treatment and discharge points.
- h. Field oversight by a qualified Remediation Technician.
- i. Minor RAP modification report preparation. Examples of minor RAP modifications include revisions to the milestone schedule, equivalent equipment replacements or minor equipment changes not affecting the cleanup strategy, removal of off-gas treatment when no longer required, removal of treated ground water polishing when no longer required, etc.
- j. Daily business day monitoring of telemetry.
- k. Documentation of all equipment maintenance in accordance with equipment manufacturer's recommendations.
- l. Repair or replacement of equipment and all associated costs that are determined to be the result of a failure to either perform preventative maintenance or to operate the equipment in accordance with the manufacturer's recommendations or the approved RAP/RAP Mod.

Unless otherwise specified, the following pay items do **NOT INCLUDE**:

- a. Project oversight by a Florida registered P.E. (Use negotiated costs).
- b. Treatment/recovery wells (Use Drilling and Boring and Well Installation pay items).
- c. Monitoring well sampling and water or product level measurements, excluding treatment/recovery points (Use Sample Collection pay item).
- d. Laboratory analytical testing of all system and monitoring well samples (Use Laboratory Analytical Testing pay item).
- e. Major repair, replacement or modification of State-owned equipment outside the warranty or warranty period (case-by case).
- f. Contractor mobilization for major repair or replacement of State-owned equipment outside the warranty or warranty period, that is required independent of scheduled O&M visits (Use Mobilization pay item).
- g. Utilities including electricity, propane and sewer (Use Reimbursable pay item if not paid directly by DEP).
- h. Remedial action reports (Use Reports pay item).
- i. Actions and costs to address shut down, malfunction or damage caused by natural events such as lightning, hurricanes, tornadoes, floods and deep freezes if the Contractor has taken reasonable and cost-appropriate precautions against such events. Appropriate precautions shall include protection of equipment from the elements, securing equipment and enclosures against high winds, protection of exposed piping and equipment against freeze, and protection against lightning strikes.

- j. Any necessary repair or replacement of equipment that is determined to be the result of a failure to either perform preventative maintenance or to operate the equipment in accordance with the manufacturer's recommendations or the approved RAP/RAP Mod will be the responsibility of the Contractor.
- k. Major RAP modification report preparation (Use Reports pay item).
- l. Waste disposal (Use Debris, Waste and Product Removal and Disposal pay item).
- m. Chemicals, replacement carbon and/or replacement pre-treatment filters for pretreatment or vapor treatment (Use Reimbursable pay item).

16-17. Groundwater Treatment System Package - Medium: [Per Day].

16-18. Groundwater Treatment System Package - Medium: [Per Week].

16-19. Air Sparge System Package - Medium: [Per Day].

16-20. Air Sparge System Package - Medium: [Per Week].

16-21. AS/SVE System Package - Medium: [Per Day].

16-22. AS/SVE System Package - Medium: [Per Week].

16-23. MPE System Package - Medium: [Per Day].

16-24. MPE System Package - Medium: [Per Week].

17. REMEDIATION SYSTEM O&M PACKAGED WORK SCOPES (Excluding Remediation System Equipment): The following pay items are all inclusive packages on a monthly basis of mobilization, Per Diem, labor, materials and equipment necessary (excluding remediation system equipment) for conducting operation, monitoring, system related sampling, preventative maintenance, trouble shooting, minor repairs and parts replacements for remediation systems after startup in accordance with the approved RAP/RAPMOD and applicable guidance. This pay item also includes ongoing evaluation and system optimization and recording of major component run times based on clock meter readings and service fees for system telemetry. The DEP Project Manager shall be contacted within 72 hours of any changes to system status.

NOTE: This pay O&M item is intended for use with either remediation systems provided by the Contractor at unit costs for time used as outlined in section 18. below or with pre-existing State-owned remediation systems. This pay item is not intended for use with remedial action packaged work scopes that include personnel and remediation system equipment for shorter time periods as outlined in section 16. above.

NOTE: Preventative maintenance covered by this O&M pay item includes, but is not limited to: air compressor maintenance, including oil changes, vane wear measurements and vane replacement, AS and SVE blower maintenance, surface/submersible pump maintenance and cleaning, tray stripper cleaning, heat exchanger cleaning, filter cleaning or replacement, pump/compressor oil changes, adjustment of pump intake elevations, routine cleaning and acidizing of pumps and water treatment units, cleaning and calibration of sensors, meters and gauges, function checks of fail-safe/interlock mechanisms, verification/replacement of safety guards and screens and compound maintenance, weed control and general housekeeping.

NOTE: Minor repairs covered by this O&M pay item include, but are not limited to: repair or replacement of cracked or damaged pipes or hoses, replacement of small parts such as valves, gauges, switches, belts, etc., replacement of compressor/pump drive belts and couplings, and repair and painting of fences, gates, enclosures and compound covers.

NOTE: Major equipment repairs or parts replacement for remediation systems provided by the Contractor at unit costs for time used are the responsibility of the Contractor and covered under the Remedial Action Equipment Use pay item. However, major repairs or parts replacement for existing State-owned equipment may apply on a case-by-case basis provided the equipment is not covered by warranty and the Contractor has received prior written approval from the DEP Project Manager after consideration of cost effectiveness and following all State property rules and guidelines pertaining to capitalization, transfer, tracking and surplus. Examples of major equipment repairs/replacement include but are not limited to: blower vane replacement requiring complete disassembly (i.e., cleanout of shattered vane fragments), oil seal replacement requiring dismantling of equipment, replacement of large system components such as blowers, compressors, liquid ring pumps, submersible pumps, air/water and oil/water separators, etc., replacement of air stripping tower packing, and replacement of carbon vessels or carbon change out of same.

NOTE: Remediation systems, either provided by the Contractor at unit costs for time used or pre-existing State-owned equipment, shall have a minimum operational runtime of 80% of the approved design run time for all major components based on clock meter readings for all major components. For runtime of less than 80% of the approved design run time for all major components during the pay item time frame, the pay item will be invoiced at the amount equal to the percentage runtime using the following method: multiply the full pay item amount times the actual runtime percentage = invoice amount (e.g., if runtime is 75%, only 75% of the full pay item amount will be paid).

NOTE: The pay item choices are based on the size and complexity of the remediation system in the approved RAP/RAP Mod with a supplemental option for those sites utilizing catalytic or thermal oxidizers for off-gas treatment during the initial period of treatment. **NOTE:** Pre-treatment and add-on carbon treatment (vs. sole treatment technology) and add-on thermox/catox treatment are not considered to be separate “Technologies” for the purpose of determining small, medium and large system size pay items. The appropriate pay item will be determined using the following criteria:

Treatment/Recovery Points	1 Technology	2 Technologies	3 Technologies
<10 Treat/Recovery Points	Small	Small	Small
10-20 Treat/Recovery Points	Medium	Medium	Medium
21-40 Treat/Recovery Points	Large	Large	Large
>40 Treat/Recovery Points	n/a	Extra Large	Extra Large

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All equipment, material, and labor costs.
- b. Mobilization of personnel and non-remediation system equipment to and from site.
- c. Per Diem for personnel travel, if applicable.
- d. System operation and evaluation
- e. System and treatment/recovery point performance parameter data collection (pressure, vacuum, flow rates, temperatures, etc.).
- f. System related sampling of water and air streams including all recovery/treatment and discharge points.
- g. Adjustments to flow rate, pressure, vacuum, RPM, fail-safe/interlock settings.
- h. Equipment and sensor calibration.

- i. Recovery/treatment well water or product level measurements.
- j. System preventative maintenance.
- k. Minor repairs.
- l. Major repair or replacement parts for existing State-owned equipment while covered under the manufacturer's warranty or equipment provided by the Contractor at unit costs for time used at any time.
- m. Trouble-shooting visits to diagnose system shut downs or malfunctions, make minor repairs and re-start systems.
- n. Oversight by a qualified Remediation Technician.
- o. Telemetry service fees and daily business day monitoring of telemetry.
- p. Documentation of all equipment maintenance in accordance with equipment manufacturer's recommendations.
- q. Repair or replacement of equipment and all associated costs that are determined to be the result of a failure to either perform preventative maintenance or to operate the equipment in accordance with the manufacturer's recommendations or the approved RAP/RAP Mod.

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Project oversight by a Florida registered P.E. (Use negotiated costs).
- b. Monitoring well sampling and water or product level measurements, excluding treatment/recovery points (Use Sample Collection pay item).
- c. Laboratory analytical testing of all system and monitoring well samples (Use Laboratory Analytical Testing pay item).
- d. Major repair, replacement parts or modification of existing State-owned equipment outside the warranty or warranty period (case-by-case).
- e. Contractor mobilization for major repair, replacement parts or modification of existing State-owned equipment outside the warranty or warranty period, that is required independent of scheduled O&M visits (Use Mobilization pay item).
- f. Utilities including electricity, propane and sewer (Use Reimbursable pay item if not paid directly by DEP).
- g. Remedial action reports (Use Reports pay item).
- h. Actions and costs to address shut down, malfunction or damage caused by natural events such as lightning, hurricanes, tornadoes, floods and deep freezes if the Contractor has taken reasonable and cost-appropriate precautions against such events. Appropriate precautions shall include protection of equipment from the elements, securing equipment and enclosures against high winds, protection of exposed piping and equipment against freeze, and protection against lightning strikes.
- i. Any necessary repair or replacement of equipment that is determined to be the result of a failure to either perform preventative maintenance or to operate the equipment in accordance with the manufacturer's recommendations or the approved RAP/RAP Mod will be the responsibility of the Contractor.
- j. RAP modification report preparation (Use negotiated costs).
- k. Waste disposal (Use Waste Disposal and Product Handling pay item).
- l. Chemicals and/or replacement carbon for pretreatment or vapor treatment (Use Reimbursable pay item).

17-1. System O&M Package - Small (excludes system): [Per Month].

17-2. System O&M Package - Medium (excludes system): [Per Month].

17-3. System O&M Package - Large (excludes system): [Per Month].

17-4. System O&M Package – Extra Large (excludes system): [Per Month].

17-5 Supplemental System O&M Package - Add Thermox or Catox Treatment: [Per Month].

18. REMEDIAL ACTION EQUIPMENT/SYSTEM USE (Equipment Only, Excluding O&M): The following pay items are for equipment use only items or turnkey remediation systems as specified. Major repairs and component/parts replacement are the responsibility of the Contractor under this pay item. Maintenance, trouble shooting, minor repairs and parts replacements for equipment are covered by the Monthly Remediation System O&M Package pay items. Systems provided by the Contractor at unit costs for time used include carbon polishing equipment and initial carbon for groundwater, but do not include carbon treatment equipment or catox/thermox equipment for off-gas treatment. Damage, loss and liability associated with equipment use is the responsibility of the Contractor and any costs associated with insurance and/or liability damage waivers are included in the fixed cost.

NOTE: Remediation systems provided by the Contractor at unit costs for time used shall have a minimum operational runtime of 80% of the approved design run time for all major components based on clock meter readings. For runtime of less than 80% of the approved design run time for all major components during the pay item time frame, the pay item will be invoiced at the amount equal to the percentage runtime using the following method: multiply the full pay item amount times the actual runtime percentage = invoice amount (e.g., if runtime is 75%, only 75% of the full pay item amount will be paid).

General Remediation System Requirements: All system designs must incorporate all applicable OSHA and electrical safety standards including National Electrical Code and NFPA standards, and be UL certified or equivalent. Systems must include control panels with telemetry capable of remote monitoring and operation (except in cases where the system will be monitored by personnel on-site), phase monitors, intrinsically safe barriers for all switches (i.e. thermal overload, full tank pump shut off, interlock that prevents operation of the air sparging system in the event the VES is not operating, etc.), surge and lightning protection, portable ventilated weather resistant enclosure in the form of skid mounted building or enclosed trailer, freeze protection, hurricanes straps and anchors, gauges, meters, totalizers and run time hour meters for each major component to verify operation within required specifications. Systems shall also include means of noise reduction to limit noise levels to 65 dB or less at 10 feet.

Groundwater Treatment System Requirements: System must include a control panel, multi-well inlet manifold, down well groundwater pumps, oil/water separator, equalization tank, transfer pump, tray air stripper with blower, carbon polishing capability, inlet and outlet ports, valves, totalizing flow meters, switches, thermal overload and overflow shut off capability.

System Size	Minimum Water Flow Capacity (GPM)	Minimum Number of Legs Manifold	Minimum Air Flow Capacity (SCFM)
Small	75	5	300
Medium	150	10	750
Large	250	20	1500

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Air Sparging System Requirements: System must provide compressed oil free air at a temperature compatible with schedule 40 PVC pipe. The system must include control panel, applicable filters, a manifold to distribute air to each air sparging well, and means to measure air flow and pressure to each air sparging well, a pressure relief valve, discharge silencers/noise control, and a means of condensate removal.

System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Small	5	5	50
Medium	10	10	150
Large	20	20	250

Vapor Extraction System Requirements: The system must include a SVE blower/pump, air dilution valves, vacuum relief valves, transfer pump, moisture separator device, telemetry, control panel and applicable filters and meters. The system must include the capacity to add and remove vapor treatment equipment as needed. The system must include a manifold to withdraw air from VE wells and include sampling port for all applicable parameters.

System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Small	5	5	100
Medium	10	10	250
Large	20	20	500

Air Sparging/Soil Vapor Extraction System Requirements: System must provide oil free air at a temperature compatible with schedule 40 PVC pipe. The system must include a manifold to distribute and measure air flow and pressure to each air sparging well. The system must include a moisture separator device. The system must include a manifold to withdraw air from vacuum extraction (VE) wells and include sampling port for all applicable parameters. The system must include an interlock that prevents operation of the air sparging system in the event the VES is not operating.

System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Small	See individual specs for AS and SVE above		
Medium			
Large			

Multi Phase Extraction System Requirements: System must include MPE blower or pump, heat exchanger, moisture separator, vacuum relief, and air stripper. The system must include the capacity to add and remove vapor treatment equipment as needed. The system must include a manifold to withdraw air and water from MPE wells and include sampling ports for all applicable parameters.

System Size	Minimum Blower Size (HP)	Minimum Number of Legs in Manifold	Minimum Air Flow Capacity (SCFM)
Small	5 to <10	5-10	35 to 60
Medium	10 to 20	10 to 20	60 to 150
Large	20 to 40	20 to 40	150 to 300

Carbon Off-Gas Treatment Add-On: Carbon canisters must be equipped standard size inlet/outlet connections and drain for accumulated condensate.	
System Size	Minimum Air Flow Capacity (SCFM)
Small	100
Medium	250
Large	500

Thermal or Catalytic Off-Gas Treatment Add-On: Oxidizer must be electric powered and include control panel equips with telemetry, motor starter overload, LEL monitor and standard size inlet/outlet connections.	
System Size	Minimum Air Flow Capacity (SCFM)
Small	100
Medium	250
Large	500

Unless otherwise specified, the following pay items INCLUDE:

- a. All equipment, material and non-O&M labor costs.
- b. All down well groundwater pumps, if applicable.
- c. Carbon polishing equipment and initial carbon.
- d. Major repairs or replacement items, including remediation equipment in need of replacement, and associated mobilizations to and from site for that purpose.
- e. Costs for equipment and liability insurance and/or liability damage waivers.
- f. Mobilization to and from the site for replacement remediation system.

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Mobilization of personnel and equipment to and from site for initial installation and final removal (Use Mobilization pay item).
- b. Operation, monitoring, maintenance, minor repairs, sampling, etc. (Use Monthly Remediation System O&M Package pay item).
- c. Telemetry Service Fees, excluding telemetry equipment (Use Package Work Scope pay item).
- g. Utilities including electricity, propane and sewer (Use Reimbursable pay item if not paid directly by DEP).
- h. Chemicals and/or replacement carbon for pretreatment, groundwater polishing or vapor treatment (Use Reimbursable pay item).

- 18-1. Medium Holding Tank 2,000 to 6,000 gallon capacity - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a medium size onsite holding tank to containerize groundwater.
- 18-2. Medium Holding Tank 2,000 to 6,000 gallon capacity - Long term > 6 mos.: [Per Month]. This pay item is to provide a medium size onsite holding tank to containerize groundwater.
- 18-3. Large Holding Tank > 6,000 to 10,000 gallon capacity - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a large size onsite holding tank to containerize groundwater.

- 18-4. Large Holding Tank > 6,000 to 10,000 gallon capacity - Long Term > 6 mos.: [Per Month]. This pay item is to provide a large size onsite holding tank to containerize groundwater.
- 18-5. Groundwater Treatment System – Stand Alone Small - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey groundwater treatment system as specified above.
- 18-6. Groundwater Treatment System – Stand Alone Small - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey groundwater treatment system as specified above.
- 18-7. Groundwater Treatment System – Stand Alone Medium - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey groundwater treatment system as specified above.
- 18-8. Groundwater Treatment System – Stand Alone Medium - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey groundwater treatment system as specified above.
- 18-9. Groundwater Treatment System – Stand Alone Large - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey groundwater treatment system as specified above.
- 18-10. Groundwater Treatment System – Stand Alone Large - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey groundwater treatment system as specified above.
- 18-11. Air Sparge (AS) System – Small - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey AS system as specified above.
- 18-12. Air Sparge (AS) System – Small - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey AS system as specified above.
- 18-13. Air Sparge (AS) System – Medium - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey AS system as specified above.
- 18-14. Air Sparge (AS) System - Medium - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey AS system as specified above.
- 18-15. Air Sparge (AS) System – Large - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey AS system as specified above.
- 18-16. Air Sparge (AS) System - Large - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey AS system as specified above.
- 18-17. Air Sparge/Soil Vapor Extraction (AS/SVE) System – Small - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey AS/SVE system as specified above.
- 18-18. Air Sparge/Soil Vapor Extraction (AS/SVE) System – Small - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey AS/SVE system as specified above.
- 18-19. Air Sparge/Soil Vapor Extraction (AS/SVE) System – Medium - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey AS/SVE system as specified above.
- 18-20. Air Sparge/Soil Vapor Extraction (AS/SVE) System - Medium - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey AS/SVE system as specified above.

- 18-21. Air Sparge/Soil Vapor Extraction (AS/SVE) System – Large - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey AS/SVE system as specified above.
- 18-22. Air Sparge/Soil Vapor Extraction (AS/SVE) System - Large - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey AS/SVE system as specified above.
- 18-23. Multiphase (MPE) System – Small - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey MPE system as specified above.
- 18-24. Multiphase (MPE) System – Small - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey MPE system as specified above.
- 18-25. Multiphase (MPE) System – Medium - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey MPE system as specified above.
- 18-26. Multiphase (MPE) System - Medium - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey MPE system as specified above.
- 18-27. Multiphase (MPE) System – Large - Short Term ≤ 6 mos.: [Per Month]. This pay item is to provide a turnkey MPE system as specified above.
- 18-28. Multiphase (MPE) System - Large - Long Term > 6 mos.: [Per Month]. This pay item is to provide a turnkey MPE system as specified above.
- 18-29. Groundwater Treatment – Add On - Small - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add groundwater treatment capability to a turnkey system as specified above.
- 18-30. Groundwater Treatment – Add On – Medium - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add groundwater treatment capability to a turnkey system as specified above.
- 18-31. Groundwater Treatment – Add On – Large - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add groundwater treatment capability to a turnkey system as specified above.
- 18-32. Groundwater Treatment – Add On – Small - Long Term > 6 mos.: [Per Month]. This pay item is to add groundwater treatment capability to a turnkey system as specified above.
- 18-33. Groundwater Treatment – Add On – Medium - Long Term > 6 mos.: [Per Month]. This pay item is to add groundwater treatment capability to a turnkey system as specified above.
- 18-34. Groundwater Treatment – Add On – Large - Long Term > 6 mos.: [Per Month]. This pay item is to add groundwater treatment capability to a turnkey system as specified above.
- 18-35. Carbon Treatment - Add On – Small - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add carbon off-gas treatment capability to a turnkey system as specified above.
- 18-36. Carbon Treatment - Add On – Medium - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add carbon off-gas treatment capability to a turnkey system as specified above.
- 18-37. Carbon Treatment - Add On – Large - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add carbon off-gas treatment capability to a turnkey system as specified above.

- 18-38. Carbon Treatment - Add On – Small - Long Term > 6 mos.: [Per Month]. This pay item is to add carbon off-gas treatment capability to a turnkey system as specified above.
- 18-39. Carbon Treatment - Add On – Medium - Long Term > 6 mos.: [Per Month]. This pay item is to add carbon off-gas treatment capability to a turnkey system as specified above.
- 18-40. Carbon Treatment - Add On – Large - Long Term > 6 mos.: [Per Month]. This pay item is to add carbon off-gas treatment capability to a turnkey system as specified above.
- 18-41. Thermox/Catox - Add On – Small - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add thermal or catalytic oxidizer off-gas treatment capability to a turnkey system as specified above.
- 18-42. Thermox/Catox - Add On – Medium - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add thermal or catalytic oxidizer off-gas treatment capability to a turnkey system as specified above.
- 18-43. Thermox/Catox - Add On – Large - Short Term ≤ 6 mos.: [Per Month]. This pay item is to add thermal or catalytic oxidizer off-gas treatment capability to a turnkey system as specified above.
- 18-44. Thermox/Catox - Add On – Small - Long Term > 6 mos.: [Per Month]. This pay item is to add thermal or catalytic oxidizer off-gas treatment to a turnkey system as specified above.
- 18-45. Thermox/Catox - Add On –Medium - Long Term > 6 mos.: [Per Month]. This pay item is to add thermal or catalytic oxidizer off-gas treatment to a turnkey system as specified above.
- 18-46. Thermox/Catox - Add On – Large - Long Term > 6 mos.: [Per Month]. This pay item is to add thermal or catalytic oxidizer off-gas treatment to a turnkey system as specified above.

19. REPORTS (Excluding Professional Engineering and Professional Geology Services): The following pay items are for reports associated with specified scopes of work. Reports must be accurate and complete prior to submittal to DEP. All reports must be submitted to DEP in accordance with the requirements in Chapter 62-780, F.A.C., the “Technical Report and Deliverable Related Time Frames” table in Appendix I, applicable DEP guidance, and comply with the DWM Policy on Professional Certification of Technical Documents dated March 31, 2000, if applicable. All Reports must include a history of the site, a summary of activities completed under the work order, field notes and appropriate logs for any field work, lab reports, tables, figures and maps as applicable, evaluation of the data provided, deviations from Task Assignment requirements, and recommendations for additional work needed to move the site towards closure.

The Contractor shall use of the most current version of the specified report, permit, or document form. All maps shall include a dated title block, facility ID, site name and address, north arrow, bar scale, and a legend of all symbols used, whereas distribution maps shall include iso-contours for COCs drawn such that solid lines denote known concentration contours, dashed lines denote likely concentration contours, and dotted lines denote estimated concentration contours. Tables of analytical results shall be cumulative, include the required qualifiers and qualifier codes, and bold the results that exceed the applicable target cleanup level.

NOTE: Professional Engineer and Professional Geologist review, evaluation, and certification (signature and seal) where required is excluded from the base report cost required to be provided in the response to the solicitation. Costs for these professional services will be negotiated with those responsive and responsible Respondents selected for consideration of a contract award based on criteria which excludes costs for Professional Geology and Professional Engineering Services.

NOTE: Digital data shall be submitted as an e-mail attachment if within size limitations, or on a CD if too large, compatible with Microsoft Word/Excel™ for a Microsoft Windows™ configured computer. Data shall also be made available electronically to other DEP contractors at the request of the DEP Project Manager.

Unless otherwise specified, the following pay items INCLUDE:

- a. All equipment, material, and labor costs.
- b. Mailing or other delivery costs.
- c. All guidance-specified attachments, including photographic documentation.
- d. Oversight and, if applicable, sign and seal by a Florida registered P.G. (or P.E. where allowed as an option to a P.G.)
- e. Submittal of one (1) final report hard copy, and one (1) final report digital copy.

Unless otherwise specified, the following pay items do NOT INCLUDE:

- a. Costs for Professional Geologist or Professional Engineer review, evaluation and certification (signature and seal) of plan or report, where required (Use negotiated costs).
- 19-1. Soil Source Removal Report: [Per Report]. This pay item is to provide written documentation (including photo documentation) and backup information following a soil source removal. The report should include a description and maps of the area and depth of excavation, including OVA readings and soil analytical samples analyzed. Backup documentation includes weigh tickets and disposal manifests. A registered P.G. or registered P.E. certification is required only if the report includes recommendation for no further action (NFA).
 - 19-2. Site Characterization Screening Report: [Per Report]. This pay item is used as a one-time final deliverable for Screening when field work has been performed and includes a completed Site Characterization Screening Worksheet. A registered P.G. or qualified registered P.E. certification is required to attest to the field work portion of the report only and if the report includes recommendation for no further action (NFA).
 - 19-3. General Site Assessment Report: [Per Report]. This pay item is used only for site assessment activities up to the point of initial SA Approval. The report is designed for use as a final deliverable including a Template Site Assessment Report. The level of effort should determine whether this report or a Supplemental Site Assessment Report should be used. The report must be signed and sealed by a registered P.G. or qualified registered P.E.
 - 19-4. Supplemental Site Assessment Report: [Per Report]. This pay item is used only for site assessment activities up to the point of initial SA Approval and is designed to be used for reporting limited site assessment work including Low-Scored Site Initiative assessment work. The level of effort should determine whether this report or General SA Report should be used. The report must be signed and sealed by a registered P.G. or qualified registered P.E.
 - 19-5. Receptor and Exposure Pathway Report: [Per Report]. This pay item is to report the data collected in the Receptor Survey and Exposure Pathway Identification pay item in section 19-2., including photographic documentation using the July 1, 2013 DEP Draft Receptor Survey and Exposure Pathway Identification Form and required attachments. The report must be signed and sealed by a registered P.G. or registered P.E.

- 19-6. Level 2 Natural Attenuation Monitoring Plan: [Per Plan]. This pay item is used if concentrations are greater than the Natural Attenuation Default Concentrations referenced in Chapter 62-777, F.A.C. for the Petroleum Products Contaminants of Concern as listed in Table A of Chapter 62-780, F.A.C., and to provide technical justification for selection of NAM. Refer to the Department's Remedial Action Guideline BPSS-11 (5/8/98) for more details. NOTE: Natural attenuation monitoring plans are not required if concentrations of all chemicals of concern are at or below the Natural Attenuation Default Concentrations referenced in Chapter 62-777, F.A.C. The plan must be signed and sealed by a registered P.E.
- 19-7. Natural Attenuation or Post RA Monitoring Report, Quarterly or Non-Annual: [Per Report]. This pay item would typically contain information necessary to evaluate the progress of post remediation monitoring or natural attenuation (NA) monitoring for one sampling event. Should provide discussions of results if concentrations have increased to "action" levels or higher. Registered P.E. or P.G. certification is not required unless a recommendation for "No Further Action" or a recommendation to modify the approved monitoring plan is included.
- 19-8. Natural Attenuation Monitoring Report, Annual: [Per Report]. This pay item provides a more substantial degree of evaluation of the progress of a natural attenuation or post remediation monitoring plan than the quarterly report, including conclusions and recommendations of whether to continue monitoring, validate and re-calibrate any models that may have been used, or re-establish new milestone objectives if necessary. The report must include a conclusions and recommendations section and be signed and sealed by a registered P.G. or registered P.E.
- 19-9. Pilot Test Plan: [Per Plan]. This pay item is used for pilot testing prior to implementation of the test. All specific goals must be detailed in the pilot test plan including a description of the proposed test, identification of test and measurement points, measurement protocols and expected/minimum duration of tests. The report must describe the proper implementation of the test and the collection of sufficient data to evaluate the feasibility of the proposed technology as well as to effectively design the final system. The plan must be signed and sealed by a registered P.E.
- 19-10. Pilot Test Report: [Per Report]. This pay item is used to report the results and analysis of pilot testing activities in accordance with Preapproval Program guidance and procedures. All of the specific activities performed during the pilot test must be addressed, including a description of the actual test, identification of test and measurement points, measurement protocols and actual duration of the test. The report must demonstrate the proper implementation of the test and collection of data, as well as evaluation of the feasibility of the tested technology to the effective design of the final system. The report must be signed and sealed by a registered P.E.
- 19-11. Level 1 Remedial Action Plan: [Per Plan]. This pay item is used when design of a remediation system is needed to clean up the soil and/or groundwater. The report is used when there is a limited area of relatively low levels of contamination and an evaluation of remedial alternatives is not necessary. The report shall include all appropriate tables, figures, maps and construction drawings. The report must be signed and sealed by a registered P.E.
- 19-12. Level 2 Remedial Action Plan: [Per Plan]. This pay item is used when design of a remediation system is needed to clean up the soil and/or groundwater. The report is used when there is a moderate to large area of contamination and a thorough evaluation of remedial alternatives is necessary. The report includes all appropriate tables, figures, maps and construction drawings. The report must be signed and sealed by a registered P.E.

- 19-13. Level 1 Limited Scope Remedial Action Plan or RAP Modification Plan: [Per Plan]. This pay item is used for short term remediation of either a single event or multiple episodic events with portable remediation equipment which does not involve an on-site treatment process for recovered water or air emissions. The use of the report is generally limited to short-term or episodic biosparging with mobile equipment or short-term groundwater recovery which meets the requirements for interim source removal of Rule 62-780.300(2) where the site could achieve NFA or qualify for Remediation by Natural Attenuation; or modifications that involve mainly minor system changes such as addition of a recovery well/sparging well to an existing system with that technology, or adding a treatment process to an existing system which involves one or two items. The report includes updated maps and construction drawings. The report must be signed and sealed by a registered P.E.
- 19-14. Level 2 Limited Scope Remedial Action Plan or RAP Modification Plan: [Per Plan]. This pay item is used for a soil source removal or greater than 200 cubic yards without dewatering design or geotechnical design. The report is also used for modifications such as a limited pumping event which includes on-site treatment and disposal of recovered water or short term intermittent episodic remediation with mobile sparging/SVE system or multi-phase extraction equipment. The report includes updated maps and construction drawings. The report must be signed and sealed by a registered P.E.
- 19-15. Level 3 Limited Scope Remedial Action Plan or RAP Modification Plan: [Per Plan]. This pay item is used for a soil source removal of greater than 200 cubic yards with dewatering design or geotechnical design, and for large diameter auger soil source removal design. This template is also used for bioremediation or chemical oxidation RAPs. The report must compare the conceptual designs and costs of at least three bioremediation or chemical oxidation vendors and recommend detail design of one based on cost-effectiveness. The report includes all appropriate tables, figures, maps and construction drawings. Although the specific design details may be recommended by a vendor, the preapproval contractor's P.E. must certify that the design is their own responsibility and the implementation of the design will provide a reasonable assurance of performing complete site rehabilitation in accordance with 62-780, F.A.C. The report must be signed and sealed by a registered P.E.
- 19-16. Level 4 Limited Scope Remedial Action Plan or RAP Modification Plan: [Per Plan]. This pay item is used for major modification to an existing remediation system or addition of a different cleanup technology to a site with an active remediation system (i.e. add in-situ sparging to a site with multi-phase extraction). The report includes all appropriate tables, figures, maps and construction drawings. The report is also used for soil source removal of greater than 200 cubic yards where justification is required for funding of storage system removal and/or replacement, resurfacing, canopy removal and replacement, or other facility restoration expenses in which costs will exceed \$10,000 or if dewatering and geotechnical design are included. The report must be signed and sealed by a registered P.E.
- 19-17. Construction Drawings and Specs Report: [Per Report]. This pay item is used when it is necessary to create the detailed scaled drawings of the intended remediation system that were not already included in the remedial action plan. The specifications of all equipment and materials to be constructed shall be provided. These drawings must be prepared prior to the preparation of as-built drawings. The construction drawings should be of sufficient detail as to materials and methods of construction to serve as project construction drawings. These drawings must be sufficient in detail to provide for fair and competitive bids from subcontractors and to provide for the construction of the project without additional drawings. Typical construction drawings will include: cover page, site vicinity map, remedial system compound layout, recovery well, multi-phase well, air sparging well or soil vapor extraction well details (if needed), piping cross-section, piping and

instrumentation diagram (P&ID), electrical controls diagram and equipment pad layout. Symbols on all drawings shall reflect usage established by the American National Standards Institute (ANSI) standards or generally accepted professional standards, abbreviations shall reflect common usage, and graphic scales (or dimensions) will be provided on drawings (except P&ID) to allow for measured scaling. The level of detail of these drawings can be modified based on communications with the DEP during the pre-RAP meeting. This report is generally not allowed in conjunction with excavation only work. Registered P.E. certification is not required.

- 19-18. As-Built Drawings (P.E. sealed red lined modifications): [Per Drawings]. This pay item is used for red-lined construction drawings and can be regenerated. Construction drawings must be prepared prior to the preparation of as-built drawings. Per subsection 62-780.700(12), F.A.C., these drawings must include all construction and equipment design specifications and must identify “any operational parameters different from those in the approved Remedial Action Plan.” These drawings should include the site name, DEP facility ID number, address and show the types of equipment used. These drawings must be accompanied by an itemized summary of any substantial equipment changes with pertinent technical data (size, capacity, type equipment, electrical requirements, etc.). Although there are no minimum requirements for dimension details, a scale must be provided and all details should be dimensionally consistent (e.g., all lengths identified). When possible, manufacturer data sheets and performance curves should be included. A summary providing reasons for departure from the criteria described in the approved RAP shall be included. “Red-Lined” construction drawings will be considered to be sufficient provided any changes from the original conceptual design to installation are easily discerned and accurately indicated. If completely re-created figures are submitted as as-builts, the general criteria should be identical to those required for construction drawings. Change in equipment specifications, location, or other details must be accurately and completely depicted in a way that will be readily understandable. The as-built drawings must be sealed by a registered P.E.
- 19-19. Remedial Action Startup Report: [Per Report]. This pay item is typically used for reporting the initial startup of a remediation system. Any information regarding equipment specifications or operation parameters differing from the RAP should be included in the RA Startup Report. This could include equipment changes, modifications to construction drawings (as-builts), and changes in mode of operation (e.g., pulsed operation rather than continuous). An explanation of all troubleshooting methods used to optimize the system startup should be included. This report usually includes a detailing of all system operational parameters and any problems encountered during startup and photo documentation. Registered P.E. certification is not required unless there is a recommendation for a system modification or significant change in the course of action.
- 19-20. Letter/NPDES Report: [Per Report]. This pay item is typically one to two pages with no tables or graphs. Used when a minimum response is needed such as to acknowledge completed field work where just observations were made. When used for the NPDES report, this pay item is only authorized once per quarter. However, pursuant to paragraph (4) of the Generic Permit for Discharges from Petroleum Contaminated Sites, “Monitoring results obtained for each calendar month shall be summarized and reported on a Discharge Monitoring Report (DMR) form (DEP form 62-620.910(10)) once each month.” Contractors are required to utilize the DEP Wastewater Program eDMR electronic reporting system. Therefore, the quarterly report needs to include pdf copies of three monthly eDMR forms. Registered P.E. certification is not required.
- 19-21. Operation and Maintenance Report, Quarterly or Non-Annual: [Per Report]. This pay item contains all information needed to evaluate the progress of the approved site remediation activities and includes telemetry monitoring data. This report must include a conclusions and recommendations section and all applicable O&M report tables. Registered P.E. certification is not

required, unless there are significant proposed changes to the approved RAP.

- 19-22. Operation and Maintenance Annual Report: [Per Report]. This pay item requires a more substantial degree of evaluation than quarterly reports, including summary, conclusions, discussion and recommendations of how the system may be modified or optimized to more cost-effectively and efficiently continue site remediation. The report must evaluate progress relative to cleanup milestone concentration objectives, establish new milestones if necessary and include telemetry monitoring. The report must include a conclusions and recommendations section and all applicable O&M reporting tables. The report must be signed and sealed by a registered P.E.
- 19-23. Remedial Action General Report: [Per Report]. This pay item is typically used for sites where the entire remediation strategy implemented is bioremediation or chemical oxidation, including chemical enhancement (i.e., ORC injection) with no mechanical equipment design. This report may also be used for any type of short term limited scope remediation events. This report also may be used to report the results of episodic remediation events or supplemental site assessment after SAR approval. The level of effort should determine whether this pay item or the Remedial Action Interim Report should be used. This report must be signed and sealed by a registered P.G. or registered P.E.
- 19-24. Remedial Action Interim Report: [Per Report]. This pay item can be used in several different post-SAR situations where there is a need for evaluation and discussion of activities and data pertaining to interim events that occur after SAR approval but are not addressed in other specific RAP or RA reports, including but not limited to well installation (monitoring or remediation), soil screening and verification sampling and associated updates of maps and tables. The report should provide documentation, including testing and analytical results, evaluation and discussion of completed work and activities. This report may be tasked in additional to and concurrent with a RAP, RAP Mod, RA Startup or other RA report if significant supplemental assessment activities are to be performed. This report should be used to report analytical results obtained during the remedial action phase following chemical injection or injection of products utilized to increase biological activity. This report also may be used to report the results of episodic remediation events. The level of effort should determine whether this pay item or the General Remedial Action Report should be used. Registered P.E. or P.G. certification is not required unless there is a recommendation for a system modification or significant change in the course of action.
- 19-25. Free Product Recovery Report: [Per Report]. This pay item documents the effectiveness of FPR efforts from hand bailing, absorbent socks, passive skimmers, and other non-engineered recovery methods. Registered P.E. or PG. certification is not required.
- 19-26. Well Abandonment/Site Restoration Report: [Per Report]. This is a minimal report to document well (and vault) abandonment and/or site restoration activities when well abandonment and/or site restoration was the only task performed and requires photo documentation. Registered P.E. or P.G. certification is not required.
20. PERSONNEL (Excluding Professional Engineer and Professional Geologist): The following pay items are fully loaded hourly personnel labor rates to be used for activities not otherwise covered by the Contract fixed price schedule and requires pre-approval from the DEP Project Manager. Where applicable, when fractional parts of an hour are worked they shall be payable to the nearest quarter-hour. While the minimum qualifications are expected to be met for particular personnel classifications, the labor category and associated rate are determined by the scope of service being tasked, not the individual person actually providing the service (e.g., if a qualified technician is specified but the Contractor assigns a geologist to do the work, the applicable rate paid would be that of a technician.

See Contract Descriptions of DEP Labor Categories located Appendix I for additional details.

NOTE: The Contractor must provide notification the DEP Contract Manager of any changes in the Key personnel identified in their response to the solicitation and/or upon execution of a contract with the DEP. Such notification shall include a detailed reason(s) for the need to change personnel and the Contractor must provide replacement personnel with equal or greater qualifications and experience.

Unless otherwise specified, the following pay items **INCLUDE**:

- a. All overhead, project management, general and administrative expenses, indirect expenses, and profit.

Unless otherwise specified, the following pay items do **NOT INCLUDE**:

- a. Professional engineers and professional geologists (Use negotiated costs).

20-1. Program Manager (Key): [Per Hour].

20-2. Project Manager (Key): [Per Hour].

20-3. Engineer (Key): [Per Hour].

20-4. Geologist/Geoscientist (Key): [Per Hour].

20-5. Hydrogeologist/Modeler (Key): [Per Hour].

20-6. Scientist/Technical Specialist (Key): [Per Hour].

20-7. Assistant Scientist/Technical Specialist (Key): [Per Hour].

20-8. Field Technician (Key): [Per Hour].

20-9. Draftsperson: [Per Hour].

20-10. Administrative Staff: [Per Hour].

20-11. Laborers and Security Guards: [Per Hour].

21. **PROFESSIONAL ENGINEERING AND PROFESSIONAL GEOLOGY SERVICES**: The following items and activities deemed to be or require Professional Engineering or Professional Geology Services are not included in the Schedule of Pay Item Prices required to be provided in the response to the solicitation. Costs for these items and activities will be negotiated with those responsive and responsible Respondents selected for consideration of a contract award based on criteria which excludes costs for Professional Engineering and Professional Geology Services.

21-1. Professional Engineer (Key): [Per Hour].

21-2. Professional Geologist (Key): [Per Hour].

21-3. P.G. Field Oversight of Drilling and Boring and Soil-Boring Logging.

- 21-4. P.G. Field Oversight of Well Installation.
- 21-5. P.E. Project Oversight for Remediation Technology Pilot Testing.
- 21-6. P.E. Project Oversight for Remediation System Integration and Startup.
- 21-7. P.E. Project Oversight for Short Term or Episodic Remediation System Operation.
- 21-8. P.E. Project Oversight for Remediation System Operation and Maintenance activities.
- 21-9. P.E. Review and Certification of Sufficiency of Engineering Controls (other than permanent, impermeable surface or top two feet of clean fill), with Monitoring and Maintenance Recommendations Required for a Conditional No Further Action (NFA).
- 21-10. P.G. Review and Certification of Sufficiency of Engineering Controls Limited to Permanent, Impermeable Surface or Top Two Feet of Clean Fill with Monitoring and Maintenance Recommendations Required for a Conditional NFA.
- 21-11. P.E. Design and Certification of Plans and Project Oversight of installation of Engineering Controls (other than permanent, impermeable surface or top two feet of clean fill) Required for a Conditional NFA.
- 21-12. P.G. review, evaluation and certification of plans, installation, and project oversight for Engineering Controls that are limited to permanent, impermeable surface or top two feet of clean fill required for a conditional NFA.
- 21-13. P.G. or P.E. Review, Evaluation and Certification of a Soil Source Removal Report That Includes a Recommendation for NFA.
- 21-14. P.G. or Qualified P.E. Review, Evaluation and Certification of a Site Characterization Screening Report Attesting to the Field Work Portion Only and if the Report Includes a Recommendation for NFA.
- 21-15. P.G. or Qualified P.E. Review, Evaluation and Certification of a General Site Assessment Report.
- 21-16. P.G. or Qualified P.E. Review, Evaluation and Certification of a Supplemental Site Assessment Report.
- 21-17. P.G. or P.E. Review, Evaluation and Certification of a Receptor and Exposure Pathway Report.
- 21-18. P.E. Review, Evaluation and Certification of a Level 2 Natural Attenuation Monitoring Plan.
- 21-19. P.E. Review, Evaluation and Certification of a Non-Annual Natural Attenuation or Post RA Monitoring Report That Includes a Recommendation for NFA or a Recommendation to Modify the Approved Monitoring Plan.
- 21-20. P.G or P.E. Review, Evaluation and Certification of an Annual Natural Attenuation Monitoring Report.

- 21-21. P.E. Review, Evaluation and Certification of a Pilot Test Plan.
- 21-22. P.E. Review, Evaluation and Certification of a Pilot Test Report.
- 21-23. P.E. Review, Evaluation and Certification of a Level 1 Remedial Action Plan.
- 21-24. P.E. Review, Evaluation and Certification of a Level 2 Remedial Action Plan.
- 21-25. P.E. Review, Evaluation and Certification of a Level 1 Limited Scope Remedial Action Plan or RAP Modification Plan.
- 21-26. P.E. Review, Evaluation and Certification of a Level 2 Limited Scope Remedial Action Plan or RAP Modification Plan.
- 21-27. P.E. Review, Evaluation and Certification of a Level 3 Limited Scope Remedial Action Plan or RAP Modification Plan.
- 21-28. P.E. Review, Evaluation and Certification of a Level 4 Limited Scope Remedial Action Plan or RAP Modification Plan.
- 21-29. P.E. Review, Evaluation and Certification of As-Built Drawings (P.E. sealed red lined modifications).
- 21-30. P.E. Review, Evaluation and Certification of a Remedial Action Startup Report That Includes a Recommendation for System Modification or Significant Change in the Course of Action.
- 21-31. P.E. Review, Evaluation and Certification of a Non-Annual Operation and Maintenance Report That Includes Significant Proposed Changes to the Approved RAP.
- 21-32. P.E. Review, Evaluation and Certification of an Annual Operation and Maintenance Report.
- 21-33. P.G or P.E. Review, Evaluation and Certification of a Remedial Action General Report.
- 21-34. P.G or P.E. Review, Evaluation and Certification of an Interim Remedial Action Report That Includes a Recommendation for System Modification or Significant Change in the Course of Action.

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APPENDIX I

SCOPE OF WORK APPENDIX

Petroleum Contamination Site Response Action Services

A. LAWS AND REGULATORY SPECIFICATIONS

Regulatory Authority

Authorization and funding of Florida's Petroleum Restoration Program is governed primarily by section 376.3071, Florida Statutes (F.S.) with funding from the Inland Protection Fund (IPTF). Additional related statutory provisions are included in sections 120.542, 206.01, 206.86, 206.9935, 215.422, 287.0585, 376.301, 376.305, 376.308, 376.3072, 376.3073, 376.3075, 376.30702, 376.30711, 376.30713, 376.30714, 376.30715, and 376.30716, F.S.

The primary DEP regulations applicable to work under this Contract include; Chapter 62-780, Florida Administrative Code (F.A.C.), Contaminated Site Cleanup Criteria, Chapter 62-777, F.A.C. – Contamination Cleanup Target Levels, Chapter 62-160, F.A.C. – Quality Assurance, Chapter 62-771, F.A.C. – Petroleum Contamination Site Priority Ranking, Chapter 62-761, F.A.C. – Underground Storage Tank Systems and Chapter 62-762, F.A.C. – Above Ground Storage Tank Systems.

The Contractor is responsible for complying with ALL State and Federal Laws and Regulations applicable to furnishing and performance of work as stated in the Contract.

Guidance Documents and Forms

The primary DEP guidance documents and forms applicable to work under this Contract are available on the Petroleum Restoration Program website @ <http://www.dep.state.fl.us/waste/categories/pcp/default.htm>, or by calling Susan Fields at (850) 245-8828, and include:

Note: These guidance documents are subject to change and revision. Also a number of them include references to the former Preapproval Program and former Bureau of Petroleum Storage Systems. These references will be updated in future revisions.

DEP GUIDANCE DOCUMENTS AND FORMS						
	Title	References*	Site Assess.	Remedial Options and Design	RA Impl.	Site Closure
1.	Applicability of Soil Cleanup Target Levels at Contaminated Sites (9/29/00)	62-713, FAC; 62-777, FAC; 62-782, FAC; 62-785, FAC	X	X	X	X
2..	Approval to Construct Class V, Group 4 Injection Wells for Contaminated Site Rehabilitation (9/14/12)	373, FS; 62-538, FAC		X	X	
3.	BPSS Enforcement of Laboratory NELAP Certification Requirements (2/15/07)	62-160, FAC; *62-770, FAC	X	X	X	X
4.	BPSS Field Notes Guidance (4/25/12)	FD 1000	X	X	X	X
5.	BPSS PCS-003: Complete Streamlined Assessment Procedures for Inland Protection Trust Funded Sites (9/1/01)	62-777, FAC	X			

6.	BPSS PCS-004: Soil Sampling and Sampling Methods (10/1/01)	62-770, 62-777, *17-70, FAC	X	X	X	X
7.	BPSS PCS-005: Groundwater Sampling Standard Operating Procedures Variances and Clarifications for Bureau of Petroleum Storage System Sites (5/2/05)	62-160, FAC	X	X	X	X
8.	BPSS PCS-006: Design, Installation, and Placement of Monitoring Wells (5/2/05)	*62-770, FAC; 62-777, FAC**	X	X	X	X
9.	BPSS-1: Non Petroleum Contamination at Petroleum Contaminated Sites (5/1/98)	None	X	X	X	X
10.	BPSS -2: In Situ Sparging, Pilot Studies, Design Requirements (5/1/98)	None		X		
11.	BPSS-3: Design Requirements and Procedures for NPDES Discharges (5/1/98)	None		X	X	
12.	BPSS-4: Vacuum Extraction, Multi-Phase Extraction, Pilot Studies, Air Emissions Treatment and Monitoring Requirements (5/10/00)	*62-770, FAC; 62-777, FAC		X	X	
13.	BPSS-5: Record Drawings (6/4/98)	*62-770, FAC		X	X	
14.	BPSS-6: Modifications to Approved RAPs (5/1/98)	None		X	X	
15.	BPSS-7: Administrative Procedures (5/1/98)	*62-770, FAC	X	X	X	X
16.	BPSS-8: Effluent Disposal via Injection Well (6/8/00)	62-528, FAC; 62-520, FAC; 62-550, FAC; 62-777, FAC		X	X	
17.	BPSS-9: PE Certification Requirements (5/1/98)	471, FS	X	X	X	X
18.	BPSS-10: In Situ Chemical Additives (3/11/11)	*62-770, FAC; 62-777, FAC; 62-550, FAC; 62-528, FAC; 62-522, FAC	X	X	X	
19.	BPSS-11: Natural Attenuation Evaluation Procedures (5/1/98)	*62-770, FAC	X	X	X	
20.	BPSS-12: Pilot Test Guidelines for Pre-Approval Program Sites (2/3/04)	None		X		
21.	BPSS-12A: In-Situ Air Sparging Pilot Test Guidance (9/2/03)	None		X		
22.	BPSS-12B: Soil Vapor Extractions Pilot Test Guidance (9/2/03)	None		X		
23.	BPSS-12C: Biosparging Pilot Test Guidance (9/2/03)	None		X		
24.	BPSS-12D: Multi-Phase Extraction Pilot Test Guidance (9/2/03)	None		X		
25.	BPSS-12E: Bioventing Pilot Test Guidance (9/2/03)	None		X		
26.	BPSS-12F Groundwater Recovery Guidance (1/30/04)	None		X	X	
27.	Calculated SCTLs for TRPH Fractions Based on TPHCWG and MADEP Methods (4/17/05)	62-777, FAC	X	X	X	X
28.	Clarification of Analytical Requirements of the Generic Permit for Discharges from Petroleum Contaminated Sites (8/6/10)	62-620, FAC; 62-621, FAC; 403, FS		X	X	

29.	DEP Quality Assurance Program Field SOPs (001/01)-see www.dep.state.fl.us/water/sas/sop/sops.htm	62-160, FAC	X	X	X	X
30.	Difficult Sites Memo (5/21/03)	*62-770, FAC; 62-777, FAC		X	X	
31.	Draft Petroleum Product Indoor Vapor Intrusion Guidelines (8/16/13)	62-780, FAC,	X	X	X	X
32.	Draft Receptor Survey & Exposure Pathway Identification Form and required attachments (7/4/13)	None	X	X	X	X
33.	Executive Summary of Source Removal Guidance for Preapproval Program Sites (2-15-2007)	376, FS		X	X	
34.	Free Product Recovery Initiative Guidance Revised (1/15/08)	376, FS	X	X	X	
35.	Generic Permit for Short Term Discharges from Petroleum Contaminated Sites, Supplemental Procedural Guidance (6/23/04)	62-621, FAC		X	X	
36.	Guidance and Procedures for Implementation of the Statutory Rule Notification Requirements for Discovery of Contamination Beyond Property Boundaries (12/21/07)	1003.01, FS; 376.30702, FS; *62-770, FAC; 62-780, FAC; 62-782, FAC; 62-785, FAC	X	X	X	X
37.	Guidance for Access to Railroad Properties that are contaminated by Petroleum Sites That Are Eligible for State Funded Cleanup Where the Railroad Property is Not the Source of Contamination (10/15/03)	376, FS; Title 49, Part 214, Code of Federal Regulations	X	X	X	X
38.	Guidance for Comparing Background and Site Chemical Concentrations in Soil (January 2012)	62-780, FAC	X	X	X	X
39.	Guidance for Completing the Groundwater Sampling Log (Form FD 9000-24) for Chapter 62-770, F.A.C.	62-770, FAC	X	X	X	X
40.	Guidance for the Determination of Subsequently Discovered Discharges at Sites with Preexisting Eligible Petroleum Discharges Pursuant to Section 376.30716, Florida Statutes (2-15-2007)	62-761, FAC; *62-770, FAC; 376, FS; 67.30716(4), FS	X	X	X	X
41.	Guidance on Site Assessment and Supplemental Assessment Report Preparation for Petroleum Preapproval Sites (10/29/98)	376, FS; 492, FS; *62-770 FAC	X	X	X	X
42.	Institutional Controls Procedures Guidance (June 2012)	62-777, FAC; 62-780, FAC; 62-782, FAC; 62-785, FAC; *62-770, FAC; 5J-17, FAC; 319, FS; 320, FS; 321, FS; 322, FS; 373, FS; 376, FS; 403, FS	X	X	X	X
43.	Interim Guidance for Laboratory Analyses for Soil Samples for Petroleum Contamination Site Assessments (2/3/98)	*62-770, FAC	X	X	X	X
44.	Investigations Near Petroleum Storage Systems (9/25/00)	None	X	X	X	

45.	LTNAM Procedure and Technical Guidance with Attachments (1/20/11)	376.3071, FS, *62-770, FAC, 62-777, FAC		X	X	
46.	Memorandum of Understanding with DOT Regarding Petroleum Cleanup and Right of Way (10/29/12)	376, FS; 403, FS; 334, FS; 337, FS; 339, FS; *17-70, FAC	X	X	X	X
47.	Off-Site Access Instructions-All Contractors (3/2/12)	376.3071(4)(1), FS	X	X	X	X
48.	Preapproval Program Allowable Cost Related to recommendation for NFA with condition (9/1/11)	61-770, FAC	X	X	X	X
49.	Preapproval Program Backfill Quality Assurance Procedures for Site Undergoing Excavation (Updated 10/10/10)	62-173 FAC		X	X	
50.	Preapproval Program Guidance for Technical and Cost Justification for Contaminated Soil Source Removal (February 2007)	*62-770, FAC; 376, FS		X	X	
51.	Preapproval Program Policy on Disclosure of Relationships between Preapproval Program Contractors and Subcontractors for Professional Engineering and Geological Services (9/30/04)	None	X	X	X	X
52.	Priority Pollutant Volatile and Extractable Organics (8/11/10)	62-770, FAC	X	X	X	X
53.	Procedural and Technical Guidance for Site Characterization Screening (7/1/12)	*62-770, FAC	X			X
54.	Professional Certification of Technical Documents (3/31/00)	471, FS; 472, FS	X	X	X	X
55.	Quality Assurance - Basic Dilution Principles Supplement to the BPSS Memorandum "Quality Assurance and Related Issues" (6/10/10)	62-160, FAC; *62-770, FAC	X	X	X	X
56.	Quality Assurance and Related Issues (5/14/07)	62-160, FAC; *62-770, FAC; 62-777, FAC	X	X	X	X
57.	Revised Policy on Establishment and Use of Milestones for Evaluating the Operation of Active Remediation Systems in the Preapproval Program (4/19/99)	None		X	X	
58.	Revised Procedures and Required Documentation for the Transfer of Title, Registration and Licensure of State-Owned Remediation System Trailers (Supersedes memo of same title dated 12/14/04) (2/28/05)	319, FS; 320, FS;			X	
59.	Rounding Analytical Data for Site Rehabilitation Completion (11/17/11)	62-302, FAC, 62-520, FAC, 62-777, FAC	X	X	X	X
60.	Sample Site Access Agreement for State Cleanup Contractors (3/12/12)	768.28, FS	X	X	X	X
61.	Soil Cleanup Target Levels, Application to Site Rehabilitation Discussions (2/1/11)	62-777, FAC; *62-770, FAC	X	X	X	
62.	SPLP Procedures for Petroleum Contaminated Sites (3/8/10)	*62-770, FAC	X	X	X	X
63.	State-Owned Tangible Personal Property Procedures an Requirements (Revised) (3/3/08)	273, FS; Section 10.370 Auditor Guidance; DEP Directives 320			X	

64.	Supplement to Milestone Policy - Time to Switch Evaluation Procedures (9/6/01)	62-777, FAC		X	X	
65.	Supplemental Guidance for 62-770.300 Interim Soil Source Removal (2/15/07)	*62-770, FAC		X	X	
66.	Supplemental Guidance for Air Emissions Control from Active Remedial Action Systems (11/24/09)	*62-770, FAC		X	X	
67.	Use of Out-of-State Facilities for Soil Treatment, Disposal, or Sources of Backfill for Preapproval Program Sites (5/20/08)	62-713, FAC	X	X	X	X
*All rule references include any subsequent replacement rules. Note, 62-770 and its predecessor 17-70 are now part of 62-780, effective 6/12/13.						
**ASTM, Standard Practice for Design and Installation of Ground Water Monitoring Wells in Aquifers (D5092-90, Reapproved 1995).						
**ASTM, Standard Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes, and Other Devices for Environmental Activities (D5299-92).						
**ASTM, Standard Guide for Use of Hollow-Stem Augers for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices (D5784-95, Reapproved 2000).						
**ASTM, Standard Guide for Installation of Direct Push Ground Water Monitoring Wells (D6724-01).						
**ASTM, Standard Guide for Direct Push Installation of Prepacked Screen Monitoring Wells in Unconsolidated Aquifers (D6725-01).						
**USEPA, Environmental Investigations Standard Operating Procedure and Quality Assurance Manual, Section 6: Design and Installation of Monitoring Wells, November 2001						

B. CONTRACT DESCRIPTIONS OF DEP LABOR CATEGORIES AND QUALIFICATIONS

The following table lists the DEP Labor Categories with functional areas of expertise, identification of Key Personnel, descriptions of the required qualifications, and typical duties. Required experience performed is defined by the typical duties listed for each category and is specific to environmental site investigations, engineering and/or remediation. An individual may fill a position in more than one labor category but this individual must meet all of the minimum qualifications and experience requirements listed under each category.

NOTE: "Key Personnel" shall have technical education and experience, in fields relevant to the petroleum response cleanup program, and if in a professional category, shall also possess a correspondingly appropriate degree such as engineering, geology, environmental science or other related science.

NOTE: "Key Personnel" shall have the following abilities and experience as applicable to their position:

1. Ability to implement and interpret biological and/or water quality monitoring data;
2. Ability to perform groundwater flow analysis and/or contaminant fate and transport analysis;
3. Ability to perform scientific and engineering analysis regarding the occurrence and processes that control the migration of dissolved contaminants in groundwater such as transport processes in heterogeneous and fractured media, hydrochemical behavior of contaminants and the evaluation of natural attenuation of contaminants including aerobic and anaerobic degradation of petroleum hydrocarbons as well as the application of degradation rates;
4. Prior direct participation on groundwater restoration projects that resulted in groundwater meeting applicable cleanup target levels or site cleanup by using several approaches such as Air Sparge/Soil Vapor Extraction, enhanced bioremediation, chemical oxidation, excavation, or other remedial technologies;

5. Prior Involvement and understanding of the petroleum cleanup regulatory process including site closure using risk-based criteria and/or institutional controls; and
6. Prior direct participation in authoring documents such as Site Assessment Reports, Remedial Action Plans, and Site Rehabilitation Completion proposals with our without conditions.

DESCRIPTIONS OF DEP LABOR CATEGORIES AND QUALIFICATIONS		
Labor Category	Qualifications	Typical Duties
Program Manager (Key)	Bachelor's degree in Physical Science, Natural Science, or Engineering. Six (6) years of experience applicable to their position. Authorized to legally bind the contracted firm and be the contact person for all issues regarding the Terms and Conditions of the contract. May be involved in complex special projects as a contract liaison. Must be a direct employee of the Contractor. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	Maintains a complete and effective project team. Ensures compliance with the contract and programmatic requirements. Formally requests the addition or substitution of personnel and subcontractors as needed.
Project Manager (Key)	Bachelor's degree in Physical Science, Natural Science, or Engineering. Six (6) years of experience performing environmental site investigations. Three (3) years direct experience in DEP Petroleum Cleanup rules, guidance, and contaminants, including the management and supervision of multidisciplinary environmental personnel. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	Supervises all activities at site and serves as primary day-to-day contact for the DEP Project Manager. Prepares the work plans and necessary amendments with appropriate justification. Reviews elements of project work plans and specifications. Implements and oversees the technical and administrative execution of Task assignments. Manages project scope, budget, and schedule. Verifies data QA/QC procedures. Reviews deliverables for quality, accuracy, and compliance with contract requirements. Ensures timely and correct invoicing. Maintains compliance with DEP regulations and policies.
Professional Geologist (Key)	Professional Geologist (PG) currently licensed in the State of Florida and in good standing with the Florida Board of Professional Geologists. Five (5) years of experience performing environmental site investigations and meets the qualifications of a Geologist as outlined under that labor category. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	Supervises all geological aspects of the project(s). Directs geological fieldwork and reviews report elements of a geological nature. Oversees aquifer tests. Seals documents as appropriate. Responsible for Geologist(s).
Professional Engineer (Key)	Professional Engineer (PE) currently licensed in the State of Florida and in good standing with the Florida Board of Professional Engineers. Five (5) years of experience performing environmental and remediation engineering at petroleum cleanup projects and meets the qualifications of an Engineer as outlined under that labor category. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	Supervises all engineering aspects of the project(s). Directs engineering evaluations of remedial options, remedial plans and designs and fieldwork and reviews report elements of an engineering nature. Oversees remediation technology pilot tests, remediation system installations and startups. Seals documents as appropriate. Responsible for Engineer(s).

DESCRIPTIONS OF DEP LABOR CATEGORIES AND QUALIFICATIONS		
Labor Category	Qualifications	Typical Duties
Geologist/ Geoscientist (Key)	Degree in Geology or Geoscience or Professional Geologist (PG) currently licensed in the State of Florida and in good standing with the Florida Board of Professional Geologists. One (1) year of experience performing environmental site investigations. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	All duties performed under supervision of the Professional Geologist. Logs and field screens soil borings. Collects samples. Supervises installation of wells. Interprets field data. Reviews environmental data. Prepares reports and other submittals.
Hydrogeologist/ Modeler (Key)	Bachelor's degree in Physical Science, Natural Science, or Engineering. Four (4) years of experience performing environmental site investigations. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	Oversees aquifer tests. Analyzes hydrologic processes and aquifer test data. Evaluates fate and transport of contaminants. Performs computer modeling. Interprets groundwater data. Prepares reports and other submittals.
Engineer (Key)	Degree in Engineering or Professional Engineer (PE) currently licensed in the State of Florida and in good standing with the Florida Board of Professional Engineers. One (1) year of experience performing environmental and remediation engineering at petroleum cleanup projects. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	All duties performed under supervision of the Professional Engineer. Reviews and interprets field data. Performs engineering evaluations of remedial options, prepares remedial plans and designs and other report elements of an engineering nature. Oversees remediation technology pilot tests, remediation system installations and startups. Prepares reports and other submittals.
Scientist/Technical Specialist (Key)	Bachelor's degree in Physical Science, Natural Science, or Engineering. Three (3) years of experience performing environmental site investigations; or two (2) years of experience as an Assistant Scientist/Technical Specialist functioning under the direct supervision and authority of an appropriate Key Personnel labor category of this Contract. Shall have the education, degree, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	Evaluates and interprets technical data. Conducts risk and ecological assessments/surveys. Oversees field aspect of remediation events and excavations. Interfaces with landowners to obtain site access, deed recordation, etc. Prepares reports and other submittals.
Assistant Scientist/ Technical Specialist	Bachelor's degree in Physical Science, Natural Science, or Engineering. No experience with environmental site investigations required. All work must be under the direct supervision and authority of an appropriate Key Personnel labor category of this Contract.	Provides assistance and support functions for any key personnel labor categories.
Field Technician (Key)	Two (2) years experience performing environmental site investigations; or one (1) year of experience as an Assistant Scientist/Technical Specialist functioning under the direct supervision and authority of an appropriate Key Personnel labor category of this Contract. Shall have the education, abilities and experience applicable to their position listed for "Key Personnel" in section B above.	Collects water, soil, and air samples in accordance with appropriate protocols. Measures groundwater elevations. Oversees field aspect of remediation events. Troubleshoots field equipment and makes simple repairs. Documents field observations. Oversees plugging and abandonment of wells.
Draftsperson	Degree or certification equivalent in drafting or computer-aided design (CAD). Two (2) years experience in the respective field.	Prepares to-scale drawings including all details as required by the DEP.

DESCRIPTIONS OF DEP LABOR CATEGORIES AND QUALIFICATIONS		
Labor Category	Qualifications	Typical Duties
Administrative Staff	Proficiency in performing applicable duties.	Ensure timely and accurate delivery of correspondence, project reports, and invoices, etc. A sufficient number of administrative staff must be available.
Laborers and Security Guards	Proficiency in performing applicable duties.	Ensures timely and accurate delivery of services. Perform manual labor associated with environmental work. A sufficient number of laborers and security guards must be available.

C. Technical Report and Deliverable Related Time Frames

CONTRACTOR TECHNICAL REPORT AND DELIVERABLE RELATED TIME FRAMES	
As-Built Drawings	Submit within 120 days of initiation of operation of active remediation system or per Work Order or Task Assignment, whichever is less
Bid Package	Submit per Task Assignment
Boring Logs	Submit per Task Assignment
Chain of Custody	Submit per Task Assignment
Closure Report	Submit per Task Assignment
Construction Drawings	Submit per Task Assignment
Disposal Manifest	Submit per Task Assignment
Effluent Concentrations or Air Emissions Exceed Those Approved in RAP or Plume Migration Occurs	Take corrective action and notify DEP/LP within 7 calendar days if not imminent threat and within 24 hours if imminent threat
Evaluation of Remedial Alternatives	Submit per Task Assignment
Field Notes	Submit per Task Assignment
Forensic Site Investigation Report	Submit per Task Assignment
Free Product Removal Report	Submit per Task Assignment
General Remedial Action Report	Submit per Task Assignment
Groundwater Sampling Logs	Submit per Task Assignment
Health and Safety Plan	Submit per Task Assignment
Interim Report	Submit per Task Assignment
Laboratory Report	Submit per Task Assignment
Letter Report	Submit per Task Assignment
Limited Contamination Assessment Report Addendum	Submit within 60 days of receipt of comments or per timeframe in comment letter
Limited Scope Remedial Action Plan	Submit per Task Assignment
Maps and/or Tables	Submit per Task Assignment

CONTRACTOR TECHNICAL REPORT AND DELIVERABLE RELATED TIME FRAMES	
Natural Attenuation Monitoring (NAM) Plan	Submit per Task Assignment
Natural Attenuation Monitoring (NAM) Plan Addendum/Response	Submit within 30 days of receipt of comments or per timeframe in comment letter
Natural Attenuation Monitoring Report	Submit per Task Assignment
No Further Action Proposal (NFAP) Addendum/Response	Submit within 30 days of receipt of comments or per timeframe in comment letter
NPDES Discharge Monitoring Report	Submit per Task Assignment
O&M Report	Submit per Task Assignment
Other Report Type	Submit per Task Assignment
PBC Maintain Target Levels Report	Submit per Task Assignment
PBC Milestone Report	Submit per Task Assignment
PBC System Startup Report	Submit per Task Assignment
PBC Target Levels, All Contaminants, All Media	Submit per Task Assignment
PBC Verification Sampling Report	Submit per Task Assignment
Photo Documentation	Submit per Task Assignment
Pilot Test Plan	Submit per Task Assignment
Pilot Test Report	Submit per Task Assignment
Post Active Remediation Monitoring Plan (PARM)	Submit per Task Assignment
Post Active Remediation Monitoring (PARM) Report	Submit per Task Assignment
Property Reporting Form	Submit per Task Assignment
Remedial Action Letter Report	Submit per Task Assignment
Remedial Action Plan (RAP)	Submit per Task Assignment
Remedial Action Plan (RAP) Addendum/Response	Submit within 60 days of receipt of comments or per timeframe in comment letter
Remedial Action Plan (RAP) Modification or alternative CTL or Change in Monitoring of Operation Parameters Proposal	Submit per Task Assignment
Remedial Action (RA) Start Up Report	Submit per Task Assignment
Remedial Action (RA) Status Reports	Submit per Task Assignment
Response to Non-Technical Comments	Submit per timeframe in comment letter
Request for Modification of Time Frame	Submit at least 20 days prior to date action required (unless emergency conditions)
Risk Assessment Report	Submit within 90 days of approval of recommendation to prepare
Risk Assessment Report Addendum/Response	Submit within 60 days of receipt of comments or per timeframe in comment letter

CONTRACTOR TECHNICAL REPORT AND DELIVERABLE RELATED TIME FRAMES	
Source Removal (SR) Report	Submit within 60 days of SR completion or per Task Assignment, whichever is less
SR Report Addendum/ Response to Comments	Submit within 60 days of receipt of comments or per timeframe in comment letter
Site Assessment (SA) Report	Submit per Task Assignment
SA Report Addendum/Response to Comments	Submit within 60 days of receipt of comments or per timeframe in comment letter
Site Access Agreement	Submit per Task Assignment
Site Characterization Screening Report	Submit per Task Assignment
Site Rehabilitation Completion Report (SRCR)	Submit as soon as all required information is available
Site Rehabilitation Completion Report (SRCR) Addendum/Response	Submit within 30 days of receipt of comments or per timeframe in comment letter
Status Report	Submit per Task Assignment
Supplemental Site Assessment Report	Submit per Task Assignment
Template Site Assessment Report	Submit per Task Assignment
Weight Tickets	Submit per Task Assignment
Well Abandonment Report	Submit per Task Assignment
Well Logs	Submit per Task Assignment

D. PROPOSAL PROCESS (Format and Content):

The Contractor's Program Manager is the same entity as the Contractor Contract Manager listed in the contract and is authorized to legally bind the contracted firm. This person is also the contact person for all issues regarding the Terms and Conditions of the contract.

The Contractor's Project Manager is the entity designated by the Contractor's Program Manager to manage the cleanup site and interact directly with the DEP's Project Manager on all issues pertaining to the task assignments. This person may be authorized to sign task assignments and invoices on behalf of the contracted firm if delegated that role by the Contractor's Program Manager.

The DEP's Contract Manager is the entity listed with that title in the contract and, while not typically delegated the authority legally bind the DEP in the contract, is the contact person for all issues regarding the Terms and Conditions of the contract and the entity that signs all task assignments and task assignment change orders.

The DEP's Project Manager is the entity assigned by the DEP to manage the cleanup site and interact directly with the Contractor' Project Manager on all issues pertaining to the task assignments. This person provides the initial signature on all task assignments and task assignment change orders.

The DEP may use the services of Contract Managers and Project Managers employed by a contracted Local Program to assist in the management of cleanup sites and those entities may act in the same capacity as the DEP staff subject to the terms of their contract and subject to additional DEP approval.

For a new site, the DEP will contact the Contractor Program Manager who shall determine the Contractor Project Manager for the site. The DEP Project Manager will communicate project requirements to the Contractor Project

Manager and makes appropriate site records available for review. The Contractor Project Manager must submit a task assignment proposal to the DEP Project Manager for approval.

The task assignment proposal shall be completed and submitted no later than one week from the Contractor's receipt of site records and agreement on project requirements between the Contractor Project Manager and the DEP Project Manager. The re-submittal of the task assignment proposal, as necessary, is due one week after the Contractor's receipt of DEP written comments and/or annotations on the previous submittal. Format, content, schedule, and submittal requirements for task assignment proposal also apply to task assignment amendments.

File Copies: The DEP will make site records available to the Contractor for review. In most cases all site files are available on-line in the OCULUS electronic file system.

Proposal Delivery: Task assignment proposals may be hand delivered, mailed or sent via e-mail. E-mailed proposals shall be sent to the program provided e-mail address and copied to the designated DEP Project Manager.

Proposal Format: The proposal shall include a detailed description of the proposed scope of work (grouped by tasks, as applicable), schedule for completion, and pay item list with price estimate (grouped by task, as applicable, and cumulative).

Justification for the scope of work shall be provided in the context of how it will move the site towards closure. The scope of work shall contain an outline of activities with a description of the tasks to be performed.

The list of pay items requested should be presented in a spreadsheet landscape form printout of nine columns in the following order:

1. Pay Item Number
2. Pay Item Description
3. Units
4. Unit Price
5. Previous Quantity
6. Additional Quantity
7. Total Quantity
8. Total Price
9. Proposed Subcontractor(s)
10. Justification/Notes

E. Acronyms

- a. ANSI – American National Standards Institute
- b. AS – Air Sparge
- c. ASTM – American Society of Testing and Materials
- d. BLS – Below land Surface
- e. BPSS – Bureau of Petroleum Storage Systems
- f. BTEX – Benzene, Toluene, Ethyl Benzene and Total Xylenes
- g. CaCO₃ – Calcium Carbonate
- h. CAD – Computer Aided Design
- i. CATOX – Catalytic Oxidizer
- j. CD – Compact Disk
- k. CFR – Code of Federal Regulations
- l. CO₂ – Carbon Dioxide

- m. COC – Chemical of Concern
- n. CTL – Cleanup Target Level
- o. DEP – Florida Department of Environmental Protection
- p. DIPE – Diisopropyl Ether
- q. DMR – Discharge Monitoring Report
- r. DO – Dissolved Oxygen
- s. DOH – Florida Department of Health
- t. DPT – Direct Push Technology
- u. DOT – Florida Department of Transportation
- v. ECD – Electron Capture Detector
- w. EDB – Ethylene Dibromide
- x. ETBE – Ethyl Tertiary Butyl Ether
- y. EPA – United States Environmental Protection Agency
- z. FAC – Florida Administrative Code
- aa. FID – Flame Ionization Detector
- bb. FP – Free Product
- cc. FPR – Free Product Recovery
- dd. FS – Florida Statutes
- ee. GC – Gas Chromatography
- ff. GPM – Gallons Per Minute
- gg. HP – Horsepower
- hh. HSA – Hollow Stem Auger
- ii. HASP – Health and Safety Plan
- jj. IDW – Investigation Derived Waste
- kk. IPTF – Florida Inland Protection Trust Fund
- ll. IVI – Indoor Vapor Intrusion
- mm. LDA – Large Diameter Auger
- nn. LP – Liquid Propane
- oo. LP – Contracted Local Program
- pp. MADEP – Massachusetts Department of Environmental Protection
- qq. MIP – Membrane Interface Probe
- rr. MPE – Multi-phase Extraction
- ss. MR – Mud Rotary
- tt. MS – Mass Spectrometry
- uu. MTBE – Methyl Tertiary Butyl Ether
- vv. N – Nitrogen
- ww. NA – Natural Attenuation
- xx. NAM – Natural Attenuation Monitoring
- yy. NELAC – National Environmental Laboratory Accreditation Conference
- zz. NELAP – National Environmental Laboratory Accreditation Program
- aaa. NFA – No Further Action
- bbb. NFAP – No Further Action Proposal
- ccc. NFPA – National Fire Protection Association
- ddd. NPDES – National Pollutant Discharge Elimination System
- eee. O&M – Operation and Maintenance
- fff. ORC™ – Oxygen Release Compound
- ggg. OSHA – U.S. Department of Labor - Occupational Safety & Health Administration
- hhh. OVA – Organic Vapor Analyzer
- iii. PARM – Post Active Remediation Monitoring
- jjj. PBC – Performance Based Cleanup
- kkk. PCB – Polychlorinated Biphenyl

III. PE – Professional Engineer
 mmm. PG – Professional Geologist
 nnn. PIANO - Paraffins, Isoparaffins, Aromatics, Naphthenes, and Olefins
 ooo. PID – Photoionization Detector
 ppp. P&ID – Piping and Instrumentation Diagram
 qq. PLS – Professional Land Survey
 rrr. PPE – Personal Protective Equipment
 sss. PVC – Polyvinyl Chloride
 ttt. QA – Quality Assurance
 uuu. Q&A – Question and Answer
 vv. QC – Quality Control
 www. RA – Remedial Action
 xxx. RAP – Remedial Action Plan
 yyy. RAP Mod – Remedial Action Plan Modification
 zzz. RCRA – Resource Conservation and Recovery Act
 aaaa. RPM – Revolutions Per Minute
 bbbb. SA – Site Assessment
 cccc. SAR – Site Assessment Report
 dddd. SCTL – Soil Cleanup Target Level
 eeee. SM – Standard Methods for the Examination of Water and Wastewater
 ffff. SPLP – Synthetic Precipitation Leaching Procedure
 gggg. SRC – Site Rehabilitation Completion
 hhhh. SRCR – Site Rehabilitation Completion Report
 iii. SCFM – Standard Cubic Feet Per Minute
 jjj. SVE – Soil Vapor Extraction
 kkkk. TBA – Tertiary Butyl Alcohol
 llll. TAME – Tertiary-Amyl Methyl Ether
 mmmm. Thermox – Thermal Oxidation
 nnnn. TPHCWG – Total Petroleum Hydrocarbon Criteria Working Group
 oooo. TRPH – Total Recoverable Petroleum Hydrocarbons
 pppp. TPOC – Temporary Point of Compliance
 qq. UIC – Underground Injection Control
 rrrr. UL – Underwriters Laboratories
 ssss. US – United States
 tttt. VE – Vacuum Extraction
 uuuu. VOH – Volatile Organic Halocarbons

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