

Formal Task Assignment Document

2023 – 2025 SNOHOMISH COUNTY ON-CALL TASK ASSIGNMENT

Name of Project: Former Fire Pit, Big Gulch & Swamp Creek Environmental
Project Number: Airport
Discipline: Engineering Services
Task No.: TA#2a Completion Date: 12/31/2025

The COUNTY desires to authorize services pursuant to the AGREEMENT entered into with **GeoEngineers, Inc.**, and executed on December 16, 2022, as amended by Supplement No. 1 on August 1, 2023, as amended by Supplement No. 2 on August 8, 2024 and identified as Agreement No. **OCC23/2-7.8(U)**, On-Call Consultant Services for **Environmental Site Assessment**.

All provisions in the AGREEMENT remain in effect except as expressly modified by this TASK ASSIGNMENT and are incorporated herein by reference.

ATTACHED TO THIS TASK ASSIGNMENT

- Scope of Work
- Cost Estimate with Total Hours to Perform Work
- Items unique to the project not included in the AGREEMENT and which are to be reimbursed at cost with no markup.

Original Task Assignment Total: **\$247,478.31**
Previous Task Amendment Total: **\$0.00**
Current Task Amendment Total: **\$299,255.10**
Total Task Assignment Not to Exceed: **\$546,733.41**

No other payment shall be allowed unless a TASK ASSIGNMENT Amendment for changed Scope of Work has been signed and authorized before work is performed.

All work under this TASK ASSIGNMENT shall be performed pursuant to the terms, conditions, specifications, and limitations contained in the AGREEMENT.

If you concur with this TASK ASSIGNMENT and agree to the items as stated above, please sign and date in the appropriate spaces below and return to the COUNTY for final action.

Consultant Signature

Approving Authority

Date

Date



2101 4th Avenue, Suite 950
Seattle, Washington 98121
206.728.2674

December 20, 2024

Snohomish County Airports
9901 24th Place West, Suite A
Everett, Washington 98204

Attention: Andrew Rardin

Subject: Scope Fee and Estimate
GeoEngineers, Inc. TA No. 2—Environmental Services: Former Fire Training Pit, Big Gulch
Creek, and Swamp Creek Study Areas
Supplemental Data Gaps Investigation
Paine Field/Snohomish County Airport
Everett, Washington
File No. 5530-015-01

Introduction and Project Understanding

This document presents the environmental scope of services for supplemental investigation and sampling, data evaluation, reporting, and technical and regulatory support for the former Fire Training Pit (FTP), Big Gulch Creek, and Swamp Creek Study Areas (Study Areas) at Paine Field/Snohomish County Airport (Paine Field) in Everett, Washington. The scope of services described in this document is based on discussions with Andrew Rardin, the Paine Field/Snohomish County Airport Environmental and Wildlife Manager, the Washington State Department of Ecology (Ecology), the available information regarding current soil, groundwater, and surface water conditions at Paine Field, and our experience with the investigation and cleanup of other airport and industrial facilities under the Ecology Model Toxics Control Act (MTCA) and its implementing regulations. We understand Paine Field is working with Ecology to draft an Agreed Order (AO) in 2025 that will include the three Study Areas as individual sites with different schedules for remedial investigations/feasibility studies (RIFS) and remedial actions. The extent of the Sites will be defined by Ecology following completion of investigation activities in impacted media.

The FTP Study Area is located at Paine Field Airport near the northwest boundary of Taxi Lane K-6 (Figure 1). The FTP was historically used as a firefighting training site for Paine Field and other local fire departments. Activities at the FTP included ignition of flammable materials including petroleum hydrocarbons which were extinguished using Aqueous Film Forming Foam (AFFF) containing per- and polyfluoroalkyl substances (PFAS). Prior investigations completed at the FTP Study Area between 1989 and 2006 identified total petroleum hydrocarbons (TPH) and lead in soil. Remedial actions were completed at the FTP in 2006 to address TPH and lead in soil at concentrations greater than the applicable Ecology MTCA cleanup levels (CULs) and the Site received a No Further Action (NFA) determination from Ecology in 2007. Subsequent investigations completed at the FTP Study Area by others in 2018, 2022, and 2023 identified

PFAS in soil and groundwater. An investigation completed by GeoEngineers, Inc. (GeoEngineers) in 2024 identified PFAS in soil, groundwater, and surface water at the FTP Study Area.

The Big Gulch Creek and Swamp Creek Study Areas are two stormwater drainage areas that receive stormwater from the Boeing Everett Modification Center (EMC) and Aviation Technical Services (ATS) Hangar 1 at the south end of Paine Field (Figure 2). The stormwater discharged to these two areas in the 1990s and 2000s included PFAS from historical releases of AFFF associated with the fire suppression system at the EMC and ATS Hangar 1 according to available records. The Big Gulch Creek Study Area (Big Gulch Creek Drainage Sub-Basin 9) is located adjacent to and southwest of Falcon Drive and Navajo Road, south of the Boeing EMC; the Swamp Creek Study Area (Swamp Creek Drainage Sub-Basin 8) is located south of the intersection of Minuteman Drive and Airport Road. Initial investigations completed by others at the Big Gulch Creek and Swamp Creek Study Areas in 2022 to evaluate the potential presence of PFAS related to historical releases identified PFAS in soil at both Big Gulch Creek and Swamp Creek Study Areas. An investigation completed by GeoEngineers in 2024 identified PFAS in soil and surface water at the two Study Areas.

The available information and data indicate that additional assessment of soil, groundwater, and surface water is needed for site characterization/regulatory compliance purposes. The scope of work presented below is intended to evaluate remaining data gaps for the three Study Areas following the work completed between 2018 and 2024. The proposed work would be conducted as an independent action that is the substantial equivalent of an Ecology supervised action pending Ecology's issuance of a draft AO.

Scope of Services

The tasks identified for this scope of services are as follows:

TASK 1. SUPPLEMENTAL DATA GAPS INVESTIGATION WORK PLAN AND PROJECT PLANNING

This task will consist of identifying the objectives of the scope of services, including investigation details and project planning.

1. Attend a project kickoff meeting/conference call with the Paine Field team, including counsel.
2. Prepare a Supplemental Data Gaps Investigation Work Plan which includes a PFAS-focused sampling and analysis plan (SAP), quality assurance project plan (QAPP), and site health and safety plan (HASP) prior to the start of fieldwork and submit to the Paine Field team for review and comment. PFAS-free sampling equipment, decontamination water, and day-of checklist for field staff will be used during this work.
3. Coordinate site access with Paine Field representatives.

TASK 2. FIELD INVESTIGATION AND LABORATORY ANALYSIS

This task will consist of subsurface investigations including the collection of soil, groundwater, surface water, and/or sediment/solids samples, as warranted, to address the objectives outlined in the work plan, at the FTP, Big Gulch Creek, and Swamp Creek Study Areas including the following:

1. Prior to drilling at each Study Area, conduct a site visit to assess current conditions and access for sampling, including monitoring well (if present) details, groundwater levels, and presence of surface water. The schedule for sampling will be dictated by site conditions including seasonal considerations.
2. Mark proposed exploration/sampling locations at each Study Area, coordinate with Paine Field to mark known utilities and subsurface features, and notify public utilities to mark utilities in the vicinity of the proposed exploration locations. Subcontract a private utility locating service to locate underground utilities at the proposed drilling and sampling locations at each Study Area. Proposed drilling/sampling locations for each Study Area will be confirmed and selected based on site conditions and the pre-drilling utility locate.
3. Field sampling procedures will follow Ecology Guidance, Sampling for PFAS protocols (Ecology 2023). Laboratory reporting limits will be identified and presented in the QAPP as part of project planning.
4. Investigation-derived waste (IDW) generated during drilling and sampling at the FTP, Big Gulch and Swamp Creek Study Areas will be drummed and temporarily stored on site. Our services include waste profiling for disposal, including additional laboratory analytical costs for analysis of selected soil/solids and water samples, as required, subcontracted transport of drummed IDW, and off-site disposal at a permitted landfill or treatment facility approved by the County. The estimated costs for IDW disposal assume the waste will qualify for disposal at a Subtitle D landfill. This subtask assumes 1 day of field activities to oversee removal of drummed waste.

Task 2A - FTP Study Area

The following scope assumes that 10 field days (10-hour days) for two field personnel will be required to complete soil, stormwater catch basin solids, groundwater, and surface water sampling, as warranted and accessible, for the FTP Study Area and oversee removal of IDW (purge water, decontamination rinse water, and soil spoils) generated during drilling activities. The proposed drilling and sampling locations for the FTP Study Area are shown in Figure 1.

1. Observe the hollow-stem auger (HSA) drilling of up to seven borings for well installations to depths of approximately 20 to 30 feet below ground surface (bgs) (assume 6 days of HSA drilling activities) or based on soil conditions at the time of drilling. Install permanent 2-inch-diameter polyvinyl chloride (PVC) monitoring wells in the borings with 10-foot well screens at the base of the well above the Vashon Till unit. Develop the monitoring wells.
2. Field screen soil samples from the borings for evidence of TPH and volatile organic compounds (VOCs) using visual, water sheen, and headspace vapor screening methods. Visually classify the samples in general accordance with ASTM International (ASTM) D2488 and prepare a log of each boring.
3. Submit selected soil samples for laboratory analysis. Up to three soil samples per boring will be collected and submitted for laboratory analysis of PFAS by U.S. Environmental Protection Agency (EPA) Method 1633 on standard turnaround (typically 15 to 20 business days).
4. Collect groundwater samples from the new monitoring wells and up to six existing monitoring wells at the FTP Study Area as part of this current scope of services (up to 13 total wells). The groundwater samples will be submitted for laboratory analysis of PFAS by EPA Method 1633 on a standard turnaround (typically 15 to 20 business days). Groundwater sampling is assumed to be completed over two days.

5. Collect up to seven surface water (if present) samples at the FTP Study Area and submit the samples for laboratory analysis of PFAS by EPA Method 1633 on a standard turnaround (typically 15 to 20 business days). Surface water sampling is assumed to be completed in one day.
6. Collect up to six stormwater catch basin solids samples at the FTP Study Area and submit the samples for laboratory analysis of PFAS by EPA Method 1633 on a standard turnaround (typically 15 to 20 business days). Solids sampling is assumed to be completed in one day.

Task 2B - Big Gulch Creek Study Area

The following scope assumes that four field days (10-hour days) for two field personnel will be required to complete soil, stormwater catch basin solids, and groundwater sampling as warranted and accessible, for the Big Gulch Study Area and oversee removal of IDW (purge water, decontamination rinse water, and soil spoils) generated during drilling activities. The proposed drilling and sampling locations for the Big Gulch Creek Study Area are shown in Figure 2.

1. Observe the HSA drilling of up to four borings for well installations to depths of approximately 15 to 20 feet below ground surface (bgs) (assume 2 days of HSA drilling activities) or based on soil conditions at the time of drilling. Install permanent 2-inch-diameter PVC monitoring wells in the borings with 10-foot well screens at the base of the well above the Vashon Till unit. Develop the monitoring wells.
2. Field screen soil samples from the borings for evidence of TPH and VOCs using visual, water sheen, and headspace vapor screening methods. Visually classify the samples in general accordance with ASTM D2488 and prepare a log of each boring.
3. Submit selected soil samples for laboratory analysis. Up to three soil samples per boring will be collected and submitted for laboratory analysis of PFAS by EPA Method 1633 on standard turnaround (typically 15 to 20 business days).
4. Collect groundwater samples from the new monitoring wells. The groundwater samples will be submitted for laboratory analysis of PFAS by EPA Method 1633 on a standard turnaround (typically 15 to 20 business days). Groundwater sampling is assumed to be completed in one day.
5. Collect up to four stormwater catch basin solids samples at the Big Gulch Creek Study Area and submit the samples for laboratory analysis of PFAS by EPA Method 1633 on a standard turnaround (typically 15 to 20 business days). Solids sampling is assumed to be completed in one day.

Task 2C - Swamp Creek Study Area

The following scope assumes that 2 field days (10-hour days) for two field personnel will be required to complete soil and groundwater sampling, as warranted and accessible, for the Swamp Creek Study Area and oversee removal of IDW (purge water, decontamination rinse water, and soil spoils) generated during drilling activities. The proposed drilling and sampling locations for the Swamp Creek Study Area are shown in Figure 3.

1. Observe the HSA drilling and sampling of up to two borings to approximately 15 to 20 feet bgs (assume 1 day) to evaluate and document the vertical extent of PFAS impacts in soil at the Swamp Creek Study Area. Up to three soil samples per boring will be collected and submitted for laboratory analysis of PFAS by EPA Method 1633 on a standard turnaround (typically 15 to 20 business days).

2. Field screen soil samples from the borings for evidence of TPH and VOCs using visual, water sheen, and headspace vapor screening methods. Visually classify the samples in general accordance with ASTM D2488 and prepare a log of each boring.
3. Collect groundwater samples from the new monitoring wells. The groundwater samples will be submitted for laboratory analysis of PFAS by EPA Method 1633 on a standard turnaround (typically 15 to 20 business days). Groundwater sampling is assumed to be completed in 1 day.

TASK 3. DATA EVALUATION AND REPORTING

1. Review, tabulate, and interpret the field and laboratory data. Discuss preliminary results with the Paine Field team.
2. Conduct PFAS forensics analysis using the soil, stormwater catch basin solids, groundwater, and surface water chemical analytical data.
3. Refine the current conceptual site model (CSM) using data analysis and drilling logs.
4. Prepare draft and final Supplemental Data Gaps Investigation Report. Provide an electronic copy of the draft report for review by Paine Field. Assume 1 round of comments and revisions. Provide electronic copies of final report.

TASK 4. REGULATORY SUPPORT AND MEETINGS

1. Support the Paine Field team, including counsel, during site characterization, regulatory compliance strategy, agency communications/negotiations. Attend meetings and/or conference calls as requested with the Paine Field team, and with Ecology, as appropriate.

TASK 5. ADMIN SUPPORT

1. Perform project management, administration, budget tracking, and invoicing. Track and document project expenditures for potential future grant reimbursement or cost recovery.

Terms, Fee Estimate and Schedule

We will work with the Paine Field project team to identify a schedule for planning and implementation of the supplemental data gaps investigation that meets your needs. The schedule and level of effort for implementation of additional work to complete the site characterization and associated regulatory elements will be determined based on discussions with the Paine Field project team including counsel.

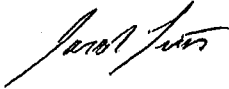
Our estimated fee for the scope of services outlined above is \$299,255.10, as detailed in the attached Table 1.

Our services will be provided, and our charges invoiced, in accordance with the terms described in our 2023-2025 On-Call Consultant Services Agreement (Number OCC23/2-7.8[U]) with Snohomish County that forms a part of this proposal. We understand that the work will be completed under our existing Task Assignment for the site.

There are no intended third-party beneficiaries arising from the services described in this proposal and no party other than the party executing this proposal shall have the right to legally rely on the product of our services without prior written permission of GeoEngineers.

This proposal is valid for a period of 60 days commencing from the first date listed above and subject to renegotiation by GeoEngineers, Inc., after the expiration date.

Sincerely,
GeoEngineers, Inc.



Jacob M. Letts, LG, LHG
Project Manager



Susan J. Bator, LSP
Principal

KRA:JML:TLS:ljjs

Attachments

Table 1. Cost Estimate

Figure 1. FTP Study Area — Proposed Exploration Locations

Figure 2. Big Gulch Creek Study Area — Proposed Exploration Locations

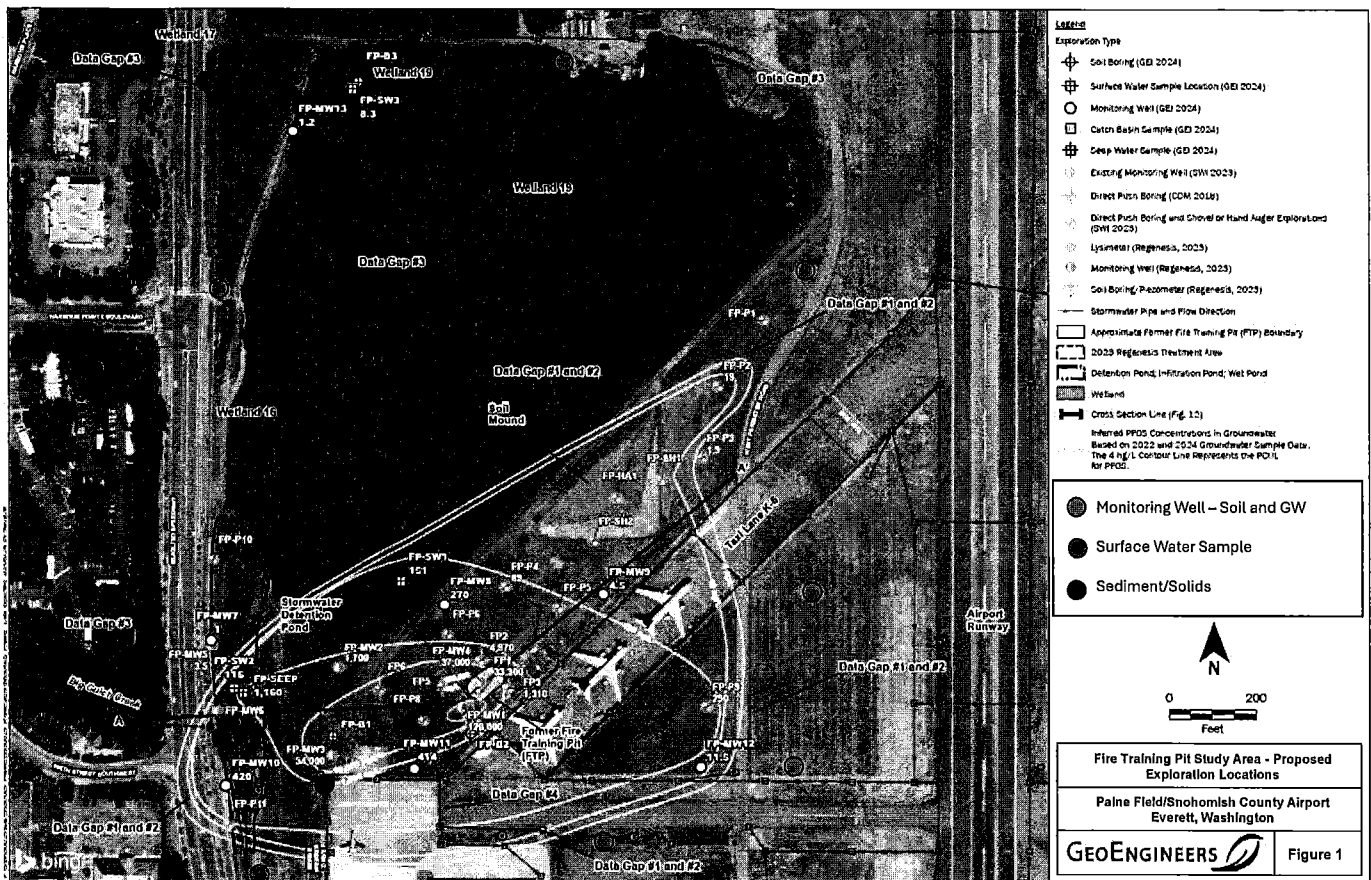
Figure 3. Swamp Creek Study Area — Proposed Exploration Locations

One electronic copy submitted

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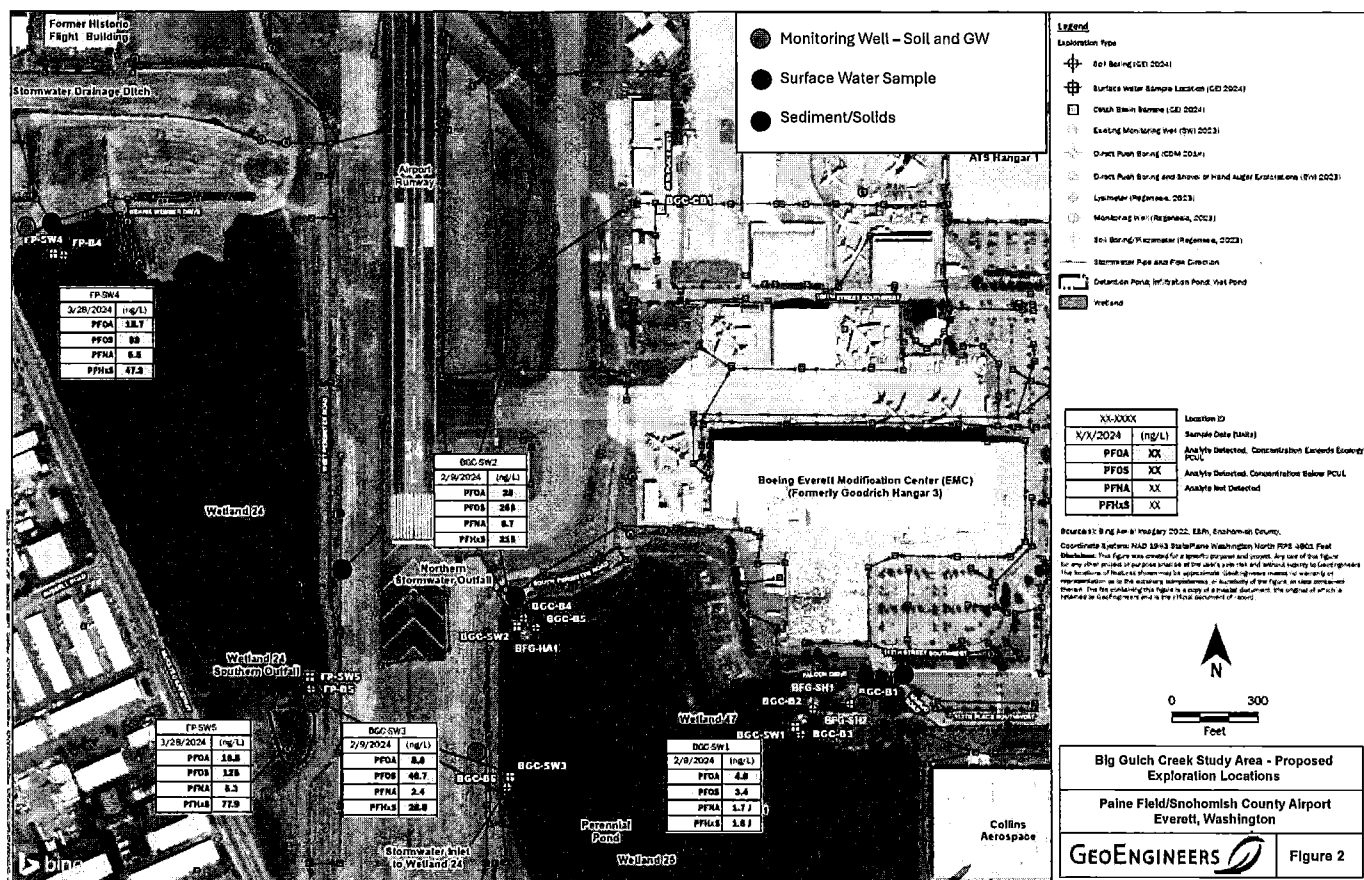


Table 1

GeoEngineers Fee Estimate - Revision 1 February 3, 2025

Former Fire Training Pit, Big Gulch Creek and Swamp Creek Sites - Supplemental Environmental Services Proposal
Snohomish County Airports - Paine Field

Staff	Title/ Max rate from Snohomish County Fee Schedule	Task 1 - Supplemental Investigation Work Plan/Project Planning	Task 2 - Field Investigation and Chemical Analysis	Task 3 - Data Evaluation and Reporting	Task 4 - Regulatory Support and Meetings	Task 5 - Admin Support	Total Staff Hours/ Direct Salary Cost (DSC)
Sue Bator	Principal ~ \$310.00	10.0 \$3,100.00	0.0 \$0.00	20.0 \$6,200.00	20.0 \$6,200.00	0.0 \$0.00	50.0 \$15,500
Tim Syverson	Associate ~ \$235.00	0.0 \$0.00	0.0 \$0.00	0.0 \$0.00	20.0 \$4,700.00	0.0 \$0.00	20.0 \$4,700
Jacob Letts	Senior Engineer/Scientist 2 ~ \$200.00	50.0 \$10,000.00	20.0 \$4,000.00	60.0 \$12,000.00	40.0 \$8,000.00	60.0 \$12,000.00	230.0 \$46,000
Katy Atakurk	Project Engineer/Scientist 2 ~ \$175.16	20.0 \$3,503.20	40.0 \$7,006.40	60.0 \$10,509.60	0.0 \$0.00	0.0 \$0.00	120.0 \$21,019
Meredith Bush	Scientist 3 ~ \$134.90	10.0 \$1,349.00	150.0 \$20,235.00	30.0 \$4,047.00	0.0 \$0.00	0.0 \$0.00	190.0 \$25,631
Max-Henry Nelson	Scientist 2 ~ \$117.93	0.0 \$0.00	150.0 \$17,689.50	20.0 \$2,358.60	0.0 \$0.00	0.0 \$0.00	170.0 \$20,048
TBD	CAD Technician ~ \$115.28	20.0 \$2,305.60	0.0 \$0.00	30.0 \$3,458.40	10.0 \$1,152.80	0.0 \$0.00	60.0 \$6,917
Leslie Thom	Administrator 3 ~ \$130.00	10.0 \$1,300.00	0.0 \$0.00	0.0 \$0.00	0.0 \$0.00	60.0 \$7,800.00	70.0 \$9,100
Carly Hendricks	Administrator 2 ~ \$130.00	10.0 \$1,300.00	0.0 \$0.00	12.0 \$1,560.00	10.0 \$1,300.00	0.0 \$0.00	32.0 \$4,160
TOTAL HOURS BY TASK:		110.0	170.0	152.0	100.0	120.0	772.0
PROPOSED TOTAL LABOR FOR TASKS:		\$22,857.80	\$48,930.90	\$40,133.60	\$21,352.80	\$19,800.00	\$153,075.10
REIMBURSABLES	UNIT	RATE	UNITS				
TRAVEL							
Vehicle Mileage	Mile	\$0.700	0.0	2,200.0	0.0	400.0	2,600.0
		\$0.00	\$1,540.00	\$0.00	\$280.00	\$0.00	\$1,820.00
FIELD EQUIPMENT RENTAL							
Soil Field Screening/Sampling Equipment	Day	\$130.00	0.0	10.0	0.0	0.0	10.0
		\$0.00	\$1,300.00	\$0.00	\$0.00	\$0.00	\$1,300.00
Groundwater Sampling Equipment	Day	\$15.00	0.0	4.0	0.0	0.0	4.0
		\$0.00	\$60.00	\$0.00	\$0.00	\$0.00	\$60.00
Vendors							
Analytical Laboratory		\$60,000.00	\$0.00	\$60,000.00	\$0.00	\$0.00	\$60,000.00
Private Locator		\$6,000.00	\$0.00	\$6,000.00	\$0.00	\$0.00	\$6,000.00
Driller		\$55,000.00	\$0.00	\$55,000.00	\$0.00	\$0.00	\$55,000.00
Investigation Derived Waste Disposal		\$10,000.00	\$0.00	\$10,000.00	\$0.00	\$0.00	\$10,000.00
Sampling Equipment and Shipping Costs		\$4,000.00	\$0.00	\$4,000.00	\$0.00	\$0.00	\$4,000.00
Surveying		\$8,000.00	\$0.00	\$8,000.00	\$0.00	\$0.00	\$8,000.00
SUBTOTAL VENDORS:		\$0.00	\$143,000.00	\$0.00	\$0.00	\$0.00	\$143,000.00
PROPOSED TOTAL REIMBURSABLES FOR TASKS:		\$0.00	\$145,900.00	\$0.00	\$280.00	\$0.00	\$146,180.00
PROPOSED TOTAL FOR TASKS:		\$22,857.80	\$194,830.90	\$40,133.60	\$21,632.80	\$19,800.00	\$299,255.10