

February 1, 2022

Mr. Matthew J Kulhanek
Fleet & Facilities Manager
City of Ann Arbor
301 E Huron, 6th Floor
Ann Arbor, Michigan 48104

via email: mjkulhanek@a2gov.org

**SUBJECT: Proposal for Part 201 Corrective Actions
Orphan Heating Oil UST
City of Ann Arbor DPW Operations Center
2000 S Industrial Hwy – Ann Arbor, Washtenaw County, MI
Atlas Proposal No, 22-00510**

Dear Mr. Kulhanek:

Atlas Technical Consultants LLC (Atlas), appreciates this opportunity to provide the City of Ann Arbor (Client) with this cost estimate to provide Part 201 corrective actions related to a release identified as a result of the excavation and removal of a 1,000-gallon orphan, heating oil, underground storage tank (UST) at the referenced site.

BACKGROUND

In April 2021, The City of Ann Arbor requested that Atlas submit a proposal to remove an orphan heating oil UST identified by city personnel while trenching for an underground electrical installation.

Atlas and its excavation sub-contractor mobilized to the Site on June 10-11, 2021 to remove the UST. The tank was exposed, and determined to be a 1,000-gallon former heating oil UST. Following the collection of soil verification samples, the stockpiled soils were returned to the open excavation pending review of the soil verification samples.

The samples were submitted under chain-of-custody to Quantum Laboratories (Quantum, Wixom, Michigan) on June 11, 2021, to be analyzed as follows:

- Six (6) soil samples analyzed as follows:
 - benzene, ethylbenzene, toluene, and xylenes (BTEX) and trimethylbenzene (TMBs) isomers by USEPA analytical method 5035/8260; and
 - polynuclear aromatic hydrocarbon compounds (PNAs) by USEPA method 8270.
- One (1) [stockpile] soil sample analyzed as follows:
 - Volatile organic compounds (VOCs) by USEPA method 5035/8260; and
 - Metals cadmium, chromium, and lead by USEPA method 7010

Quantum reported the analytical results to Atlas on June 14, 2021. The following analytes were identified as contaminants of concern (CoCs), exceeding the Part 201 generic, non-residential, clean-up criteria (GCC_{NR}):



Contaminants of Concern	
Analyte	CAS No.
2-Methylnaphthalene	91-57-6
Naphthalene	91-20-3
Phenanthrene	85-01-8
1,2,4-Trimethylbenzene	95-63-6
Xylenes, Total	1330-20-7

Based on the results of the UST assessment, Atlas concluded that a release of heating fuel had occurred, and recommended that a remedial investigation be conducted to assess the extent of the release.

Atlas and its drilling sub-contractor mobilized to the Site on November 22-23, 2021 to conduct the subsurface assessment. Atlas advanced eight (8) soil borings, converting three (3) to soil-gas implants, and four (4) to groundwater monitoring wells. The soil samples were field screened with a photo-ionization detection device (PID) and tested for mobile NAPL using Oil-in-Soil® test kits. The samples were submitted under chain-of-custody to Quantum on November 23, 2021, to be analyzed as follows:

- Fourteen (14) soil and one (1) groundwater samples analyzed as follows:
 - BTEX, TMBs and butylbenzene (n-, s- and t-) isomers by USEPA method 5035/8260;
 - PNAs by USEPA method 8270; and
 - Diesel Range Organics (DRO) by USEPA method 8015.

Atlas returned to the Site on November 29, 2021 to collect five (5) groundwater, and two (2) soil-gas samples. The groundwater samples were submitted under chain-of-custody to Quantum on November 29, 2021, to be analyzed for the parameters described above. The Soil-gas samples were submitted under chain-of-custody to Pace Laboratories (Pace) in Minneapolis, MN on December 8, 2021, to be analyzed for the EGLE list of light distillate (diesel/kerosene) volatile organic compounds (DVOCs) by USEPA analytical method TO-15.

Quantum reported the analytical results to Atlas on December 2 and 7, 2021. COCs exceeding the Part 201 GCC_{NR} were identified in soil at the MW-2 (3'), MW-3 (4') and VP-2 (3') sample locations; and COCs exceeding the Part 201 GCC_{NR} were identified in groundwater at the MW-2 and MW-3 sample locations. DRO was identified in all soil samples in excess of the EGLE NAPL threshold of 20,000 ug/kg in all samples, however, the Oil-in-Soil ® field screening suggests that residual NAPL may be present.

Pace reported the TO-15 analytical results to Atlas on December 21, 2021. None of the analytes identified in the samples were found to exceed the Site-Specific Volatilization to Indoor Air Criteria (SSVIAC) prepared by EGLE/RRD specifically for the Site.



RECOMMENDATIONS

Based on the data summarized above, Atlas has recommended an interim remedial action consisting of the removal of approximately 150-cubic yards (225-tons) of accessible soils from the former excavation, and follow-up verification activities. Atlas' proposed scope of work is attached.

If you should have any questions, comments, or require additional information, please do not hesitate to contact me in our Novi, Michigan office at 248-863-2563. I may also be reached via cell phone at 810-287-1679 or via e-mail at gerard.debusschere@oneatlas.com.

Sincerely,

ATLAS TECHNICAL

A handwritten signature in blue ink, appearing to read "Gerard DeBusschere".

Gerard DeBusschere, CPG, LPG
Sr. Project Manager

A handwritten signature in blue ink, appearing to read "Laura Sleeper".

Laura Sleeper
Retail Petroleum Division Manager

Attachments



ATTACHMENT A
PROPOSED SCOPE OF SERVICES

Part 201 Interim Remedial Activities
Orphan Heating Oil UST
City of Ann Arbor – DPW Operations Center
Ann Arbor, Washtenaw County, MI
Atlas Proposal No 22-00510
February 1, 2022

PROPOSED SCOPE OF WORK

Atlas has developed the following Scope of Work:

Task 1 – Preliminary Activities

- Atlas will prepare a Site specific Health and Safety Plan (H&SP) prior to scheduling site activities.
- Atlas will work with the city to obtain any necessary permits for the project.
- Atlas will provide project management and coordinate field activities, including:
 - Notifying MISS DIG at the appropriate time of any pending subsurface activity,
 - Atlas will obtain the services of an excavation contractor to excavate, transport and dispose of the contaminated soils to be removed from the Site.
 - Atlas will obtain the services of a liquid waste transporter to pump, transport and dispose of any liquid waste (ie. impacted groundwater/rainwater) to be removed from the Site.
 - Atlas will obtain the services of a private underground utilities location service to mark underground utilities (ie. sewers, water lines, power lines, etc.) using electromagnetic and/or ground penetrating radar prior to the initiation of subsurface activities.
 - After determining which landfill is appropriate for this project, Atlas will prepare and submit a waste profile to the selected landfill for approval.
 - A waste characterization sample may be necessary for landfill approval. In the event that it is, Atlas will mobilize to the Site to collect the sample. It will be submitted to an analytical laboratory to be analyzed for the following parameters:
 - Volatile Organic Compounds (VOCs) by USEPA analytical method 8260;
 - Polynuclear aromatic hydrocarbon compounds (PNAs) by USEPA 8270; and
 - Lead, cadmium and chromium by USEPA 6010.

Task 2 – Excavation, Transport and Disposal

- The Site soils consist of sand, silty sand and silty clays to the maximum depth of investigation at 20-feet below grade. Groundwater was encountered at an average depth of 4-feet below grade.

- The orphan heating oil UST was removed from the Site in June 2021.
 - Atlas anticipates the excavation, transport and disposal of approximately 150 cubic yards (225-tons) of petroleum impacted soil.
 - Atlas anticipates the pumping, transport and disposal of approximately 2,500-gallons of petroleum impacted groundwater/rainwater/snowmelt.
- Atlas and its Excavation Contractor will provide a 4-foot high safety fence around the work area.
- All soils removed from the subsurface will be transported to a landfill.
- Soil Verification samples:
 - Sidewall and excavation floor samples will be collected in accordance with §1.3.1- Selecting Numbers and Locations of Verification Samples in Excavations found in the EGLE guidance document “Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria” (MDEQ/ERD, 2002); in the event saturated conditions persist, and floor soil samples cannot be collected, a water sample will be collected in lieu of soil samples.
 - Atlas anticipates collecting the following samples from the (approximately) 16’(w) x 28’(l) x 10’(d) excavation:
 - Three (3) excavation floor samples (or one (1) excavation water sample in lieu of),
 - Six (6) sidewall samples
 - Additional samples may be necessary depending on the final configuration of the excavation.
 - All samples will be field screened as follows:
 - For TVOCs using a PID, the results to be recorded on the field log; and
 - For NAPL using Oil-in-Soil ® test kits, the results to be recorded on the field log.
 - All samples will be submitted to a certified analytical laboratory to be analyzed as follows:
 - BTEX, TMBs and butylbenzene isomers by USEPA method 5035/8260,
 - PNAs by USEPA 8270, and
 - DRO by USEPA 8015.
- Site Restoration:
 - All excavated areas will be backfilled with environmentally clean granular fill to within 12-inches of final grade after any site assessment samples have been obtained by Atlas.
 - **Saturated Conditions:** in the event that saturated conditions are encountered, backfill placed in the excavation(s) shall consist of 1x3 crushed stone or concrete within, and to a height 1-foot above the saturated zone, followed by a geofabric liner. Class III granular fill will be placed and compacted in 1-foot lifts above the geofabric liner to a depth 12-inches below final grade. Atlas has assumed that groundwater will be encountered at a depth of 4-feet below grade.
 - **Dry conditions:** in the event that saturated conditions are not encountered, backfill placed in the excavation(s) shall consist of Class III granular fill placed and compacted in 1-foot lifts to a depth 12-inches below final grade.

- Atlas will provide compaction testing to ensure that 95% compaction rating is accomplished within the sand backfill.
- Surface Restoration
The entire surface area of the Site is to be repaved. Atlas will prepare an RFP at a later date for the asphalt paving, however, the Site will be prepared for asphalt restoration
 - **Excavated area:** Nine (9) inches of MDOT specification 21AA gravel will be placed and compacted.

Task 3 – Subsurface Investigation

- Atlas will obtain the services of a private underground utilities location service to mark underground utilities (ie. sewers, water lines, power lines, etc.) using electromagnetic and/or ground penetrating radar prior to the initiation of subsurface activities.
- Atlas will obtain the services of a drilling contractor capable of direct push technology (DPT), powered auger and/or hand auger methods.
- Atlas anticipates advancing as many as ten (10) soil borings to a maximum depth of 20-feet below grade.
 - Atlas anticipates losing two (2) groundwater monitoring wells and one (1) soil-gas implant (MW-2, MW-3 and VP-2) to the excavation activities described under Task 2 above. These will be replaced for future use.
 - Four (4) borings will be advanced at locations within the Site building.
 - Three (3) borings will be advanced and converted to groundwater monitoring wells as follows:
 - One (1) groundwater monitoring well to be located between MW-1 and MW-4 at a location southwest of the former UST basin; and
 - Two (2) groundwater monitoring wells to be located on the northeast side of the Site building.
- During drilling, soil samples will be collected continuously to be field screened with a photo-ionization detection (PID) device. The results will be recorded on the soil boring log. As many as two (2) soil samples per boring may be collected for laboratory analysis based on PID, visual and/or olfactory data.
- One (1) groundwater sample will be collected from each soil boring and/or groundwater monitoring well.
- The soil samples selected for laboratory analyses will be field screened using Oil-in-Soil® test kits for the determination of NAPL content. The results will be recorded on the soil boring log.
- The soil and groundwater samples selected for laboratory analyses will be submitted to a certified environmental laboratory to be analyzed for the following parameters:
 - BTEX, TMBs and butylbenzene isomers by USEPA method 5035/8260,
 - PNAs by USEPA 8270, and
 - DRO by USEPA 8015.
 - Atlas will collect QA/QC samples in a ratio of one (1) duplicate sample for each ten (10) samples (or portion thereof); and
 - Atlas anticipates collecting as many as twenty (20) soil and groundwater samples for laboratory analyses.

- Atlas anticipates the construction of five (5) replacement or new groundwater monitoring wells.
 - Groundwater monitoring wells will consist of 2-inch diameter by 5-foot long PVC well screens with 2-inch PVC risers to surface;
 - All wells will be completed by backfilling the annular space with a coarse filter sand pack to a height of at least one foot above the well screen, with hydrated, granulated, bentonite chips placed above the sand pack to surface to seal the well bore; and
 - Following construction, each well will be developed until each runs clear.
 - Native soil and/or bentonite will be used to backfill all soil borings not converted to groundwater monitoring wells, and a cement patch will be placed to restore the surface.
 - Each well will be surveyed by ATC to establish both horizontal and vertical elevations, and the depth to groundwater will be measured. Global positioning will be used to establish horizontal relationships, and a laser level to establish vertical.
- Atlas will install three (3) sub-slab soil gas monitoring points within the site building.
 - Each soil gas monitoring point will consist of a Cox-Colvin™ Vapor Pin (VP) fitted with a silicone sleeve over its barbed end inserted into a 5/8-inch hole drilled through the concrete floor slab. A metal cap is placed over the pin to prevent debris from falling in.



Task 4 – Groundwater/Soil Gas Monitoring

Atlas' scope of work will include four (4) groundwater/soil gas monitoring events.

- Atlas will return to the Site one week following well construction to collect the initial samples.
- Atlas will collect follow-up samples at approximately 13-week intervals.
- Groundwater samples will consist of:
 - One (1) sample per each groundwater monitoring well; and
 - One (1) duplicate and one trip blank.
- Soil-gas samples will consist of:
 - One (1) sample per each soil gas monitoring point.

The groundwater and soil gas samples will be submitted to a certified environmental laboratory to be analyzed as follows:

- Groundwater:
 - BTEX, TMBs and butylbenzene isomers by USEPA method 5035/8260,
 - PNAs by USEPA 8270, and
 - DRO by USEPA 8015.

- Soil Gas:
 - The following light distillate (diesel/kerosene) volatile organic compounds (DVOCs) by USEPA analytical method TO-15:

benzene	di-isopropyl ether	isopropanol	Styrene
t-butanol	ethanol	isopropylbenzene	1,2,3-trimethylbenzene
n-butylbenzene	ethylbenzene	methyl-tert-butyl ether	1,2,4-trimethylbenzene
s-butylbenzene	ethyl-tert-butyl ether	naphthalene	1,3,5-trimethylbenzene
t-butylbenzene	heptane	n-propylbenzene	2,2,4-trimethylpentane
cyclohexane	hexane	toluene	xylene

Task 5 – Reporting

Two (2) Semi-annual Site Remediation Status Reports will be prepared to document the results of the interim remedial activities and follow-up monitoring, and provide recommendations for any additional work required with respect to the preparation of the Remedial Action Plan (RAP) to be submitted to the EGLE Remediation and Redevelopment Division (RRD) under Part 201 of PA 4512, as Amended.

COST ESTIMATE

A detailed cost estimate is provided in Attachment B.

SPECIAL CONDITIONS

- **The cost estimate assumes that no significant release of petroleum product has occurred other than that due to the orphan heating oil UST.** In the event that a significant release has occurred, additional activities may be required, and Atlas will prepare a cost proposal for the necessary follow-up investigation and reporting.
- Standard turnaround time for analytical samples is two (2) weeks. A rush surcharge for forty-eight (48)-hour turnaround can be provided at twice the standard rate.
- Good weather and ground conditions will prevail.
- Suitable site access will be provided by client.
- Project will be billed on time and materials basis. Project invoice will not exceed the estimate plus 10 percent without prior client notification and approval.

PROJECT SCHEDULE

Atlas estimates that within one (1) week after receiving client authorization the proposed services can be initiated. The development of a comprehensive, accurate and reliable work product is of paramount importance and Atlas will make every effort to meet the above stated project schedule.

ACCEPTANCE

If this proposal is acceptable, please sign and return the attached authorization sheet via email or facsimile. Acceptance and approval of this proposal implicitly acknowledges acceptance of the attached limitations, terms, and conditions. This proposal will constitute the entire agreement between the parties, and is valid for a period of 60 days. Atlas notes that the conditions of



engagement are subject to a credit review and a retainer fee may be required prior to project initiation.

This document is the property of Atlas Technical Consultants LLC and has been prepared for the express use of the City of Ann Arbor for evaluating Atlas' proposed scope of services and associated cost. It is not designed or authorized for any purpose other than as part of this proposal. Use of this document by anyone in any fashion for any purpose other than the stated purpose is prohibited.



ATTACHMENT B
PROPOSAL COST DETAIL
Interim Remedial Activities
City of Ann Arbor - Orphan Heating Oil UST

CONTRACTOR: Atlas Technical Consultants

1/20/2022

LOCATION: Ann Arbor DPW Facility

ADDRESS: 2000 S Industrial Hwy - Ann Arbor, Washtenaw County, MI

SCOPE: Scope of work includes: Excavate 225-tons impacted soil; conduct remedial investigation, including 4 quarterly groundwater/soil gas sampling events; prepare semi-annual status reports

Task 1 - Preliminary Activities

<u>Labor:</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Project Manager	2	Hour	\$ 95.00	\$ 190.00
Sr. Scientist	4	Hour	\$ 85.00	\$ 340.00
Branch Safety Officer	1	Hour	\$ 75.00	\$ 75.00
Staff Scientist	4	Hour	\$ 75.00	\$ 300.00
Project Admin.	1	Hour	\$ 45.00	\$ 45.00
Subtotal - Labor				\$ 950.00

Task 2 - Excavation, Transport & Disposal

<u>Labor:</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Project Manager	5	Hour	\$95.00	\$ 475.00
Sr. Scientist	1	Hour	\$85.00	\$ 85.00
Staff Scientist	36	Hour	\$75.00	\$ 2,700.00
Project Admin.	1	Hour	\$45.00	\$ 45.00
Subtotal - Labor				\$ 3,305.00

<u>Reimbursable Expense</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Vehicle	5	Day	\$75.00	\$ 375.00
PID	4	Day	\$35.00	\$ 140.00
Sample Kit	2	Day	\$45.00	\$ 90.00
Trimble GPS	0.5	Day	\$296.00	\$ 148.00
Miscellaneous	4	Day	\$25.00	\$ 100.00
Subtotal - Reimbursable Expense				\$ 853.00

<u>Analytical Expense</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
PNAs	10	Each	\$81.00	\$ 810.00
MI-ULG Parameters	10	Each	\$69.00	\$ 690.00
Oil in Soil Kits	9	Each	\$7.00	\$ 63.00
DRO	10	Each	\$70.00	\$ 700.00
Subtotal - Analytical Expense				\$ 2,263.00

<u>Subcontractor Expense</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Private Locating	1	Each	\$1,018.00	\$ 1,018.00
Excavation Contractor	1	Each	\$35,855.00	\$ 35,855.00
Liquid Waste Contractor	1	Each	\$5,146.00	\$ 5,146.00
Subtotal - Subcontractor Expense				\$ 42,019.00

Task 3 - Remedial Investigation

<u>Labor:</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Project Manager	10	Hour	\$95.00	\$ 950.00
Sr. Scientist	2	Hour	\$85.00	\$ 170.00
Staff Scientist	32	Hour	\$75.00	\$ 2,400.00
Environmental Scientist	16	Hour	\$65.00	\$ 1,040.00
Project Admin.	2	Hour	\$45.00	\$ 90.00
Subtotal - Labor				\$ 4,650.00

<u>Reimbursable Expense</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Vehicle	6	Day	\$75.00	\$ 450.00
PID	4	Day	\$35.00	\$ 140.00
Sample Kit	2	Day	\$45.00	\$ 90.00
Sub-slab vapor Pins	3	Day	\$69.00	\$ 207.00
Hammer Drill Rental	1	Day	\$135.00	\$ 135.00
Trimble GPS	0.5	Day	\$296.00	\$ 148.00
Miscellaneous	4	Day	\$25.00	\$ 100.00
Subtotal - Reimbursable Expense				\$ 1,270.00



ATTACHMENT B
PROPOSAL COST DETAIL
 Interim Remedial Activities
 City of Ann Arbor - Orphan Heating Oil UST

Task 3 - Remedial Investigation - Continued

<u>Analytical Expense</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
PNAs	17	Each	\$81.00	\$ 1,377.00
MI-ULG Parameters	17	Each	\$69.00	\$ 1,173.00
Oil in Soil Kits	12	Each	\$7.00	\$ 84.00
DRO	17	Each	\$70.00	\$ 1,190.00
Subtotal - Analytical Expense				\$ 3,824.00

<u>Subcontractors</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Total</u>
Private Locating	1	Lump	\$1,018.00	\$ 1,018.00
Drilling Contractor	1	Lump	\$4,890.00	\$ 4,890.00
Subtotal - Subcontractors				\$ 5,908.00

Task 4 - Quarterly Monitoring

<u>Labor:</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Project Manager	4	Hour	\$95.00	\$ 380.00
Sr. Scientist	4	Hour	\$85.00	\$ 340.00
Staff Scientist	72	Hour	\$75.00	\$ 5,400.00
Project Admin.	4	Hour	\$45.00	\$ 180.00
Subtotal - Labor				\$ 6,300.00

<u>Reimbursable Expense</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Vehicle	8	Day	\$75.00	\$ 600.00
PID	4	Day	\$35.00	\$ 140.00
Low Flow Sample Equipt.	4	Day	\$100.00	\$ 400.00
Water Level Indicator	4	Day	\$25.00	\$ 100.00
Magnehelic Gauge	4	Day	\$45.00	\$ 180.00
Gem 4-Gas Meter	4	Day	\$45.00	\$ 180.00
Sample Kit	4	Day	\$45.00	\$ 180.00
Miscellaneous	4	Day	\$25.00	\$ 100.00
Subtotal - Reimbursable Expense				\$ 1,880.00

<u>Analytical Expense</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
PNAs	32	Each	\$81.00	\$ 2,592.00
MI-ULG Parameters	32	Each	\$69.00	\$ 2,208.00
DRO	32	Each	\$70.00	\$ 2,240.00
Soil-Gas (MI-ULG)	24	Each	\$198.00	\$ 4,752.00
Subtotal - Analytical Expense				\$ 11,792.00

Task 5 - Reporting

<u>Labor:</u>	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Extended Cost</u>
Project Manager	6	Hour	\$95.00	\$ 570.00
Sr. Scientist	18	Hour	\$85.00	\$ 1,530.00
Staff Scientist	18	Hour	\$75.00	\$ 1,350.00
Environmental Scientist	18	Hour	\$65.00	\$ 1,170.00
CAD Operator	16	Hour	\$50.00	\$ 800.00
Project Admin.	4	Hour	\$45.00	\$ 180.00
Subtotal				\$ 5,600.00



ATTACHMENT B
PROPOSAL COST DETAIL
Interim Remedial Activities
City of Ann Arbor - Orphan Heating Oil UST

<i>Proposal Summary</i>	
Task 1 - Preliminary Activities	
Labor	\$ 950.00
Subtotal - Task 1	\$ 950.00
Task 2 - Excavation, Transport & Disposal	
Labor	\$ 3,305.00
Reimbursable Expense	\$ 853.00
Analytical Expense	\$ 2,263.00
Subcontractor Expense	\$ 42,019.00
Subtotal - Task 2	\$ 48,440.00
Task 3 - Remedial Investigation	
Labor	\$ 4,650.00
Reimbursable Expense	\$ 1,270.00
Analytical Expense	\$ 3,824.00
Subcontractors	\$ 5,908.00
Subtotal - Task 3	\$ 15,652.00
Task 4 - Quarterly Monitoring (4 Events)	
Labor	\$ 6,300.00
Reimbursable Expense	\$ 1,880.00
Analytical Expense	\$ 11,792.00
Subtotal - Task 4	\$ 19,972.00
Task 4 - Quarterly Monitoring (per Event)	\$ 4,993.00
Task 5 - Reporting (2 Events)	
Labor	\$ 5,600.00
Subtotal - Task 5	\$ 5,600.00
Task 5 - Reporting (per Event)	\$ 2,800.00
Total Proposed Budget	\$ 90,614.00



ATTACHMENT C
ATLAS FEE SCHEDULE

Part 201 Interim Remedial Activities
Orphan Heating Oil UST
City of Ann Arbor – DPW Operations Center
Ann Arbor, Washtenaw County, MI
Atlas Proposal No 22-00510
February 1, 2022

Professional Staff	Unit Rate	Unit
Program Manager	\$105.00	Hour
Sr. Engineer	\$105.00	Hour
Sr. Project Manager	\$ 95.00	Hour
Staff Engineer	\$ 95.00	Hour
Sr. Scientist	\$ 85.00	Hour
Branch Safety Officer	\$ 75.00	Hour
Staff Scientist	\$ 75.00	Hour
Environmental Scientist	\$ 65.00	Hour
Sr. Technician	\$ 58.00	Hour
Jr. Technician	\$ 48.00	Hour
CAD Operator	\$ 55.00	Hour
Project Admin.	\$ 45.00	Hour

Equipment	Unit Rate	Unit
Vehicle	\$ 75.00	Day
PID	\$ 35.00	Day
Survey Instruments	\$100.00	Day
Low Flow Sample Equipt.	\$100.00	Day
Water Level Indicator	\$ 25.00	Day
Product Interface Probe	\$ 45.00	Day
Sample Kit	\$ 45.00	Day
Sub-slab vapor Pins	\$ 91.00	Each
Hammer Drill Rental	\$135.00	Day
Trimble GPS Locating Equipment	\$195.00	Day
Nuclear Density Gauge	\$ 25.00	Day
Miscellaneous	\$ 25.00	Day

Vendor Mark-up 10%