

## Contract Supplemental Agreement

<b>Supplemental Agreement Number: 1</b>	<b>Organization and Address:</b> Haley & Aldrich Construction Services 3131 Elliott Ave, Ste 500 Seattle, WA 98121
<b>Original Contract Number:</b> 2022-225	<b>Execution Date of Supplement:</b>
<b>City Engineering Project Number:</b> 2999	<b>Completion Date of Supplement:</b> 12/31/2024
<b>Project Title:</b> Nob Hill Blvd (Tiger Oil) Site Cleanup	<b>Maximum Amount Payable this Supplement:</b> \$112,562
<b>Maximum Total Amount Payable for the Agreement:</b>	\$262,619 (\$150,057 PSA + \$112,562 Supp 1)

### Section 1: Supplemental Agreement

The City of Yakima, Washington desires to supplement the contract agreement entered into with **Haley & Aldrich Construction Services, Inc**, and executed on **12/14/22** by **Resolution No. 2022-174** and identified as **Contract 2999**. All provisions in the basic contract remain in effect except as expressly modified by this supplement. The changes to the agreement are described as follows:

### Section 2: Scope of Services

See attached Scope of Work dated 9/29/23

### Section 5: Compensation

Payment for this supplemented work will, as shown on Exhibit A is not to exceed \$112,562, bringing the total amount of the Agreement to \$262,619

### Section 7: Project Schedule and Budget

If you concur with this supplement and agree to the changes as stated above, please sign the appropriate spaces below and return to this office for final action.

By: \_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_  
Consultant Signature

\_\_\_\_\_  
City Manager

\_\_\_\_\_  
Date



HALEY & ALDRICH, INC.  
3131 Elliott Avenue  
Suite 600  
Seattle, WA 98121  
206.324.9530

29 September 2023  
File No. P204793-000

City of Yakima, Office of the City Clerk  
Yakima City Hall  
129 North 2nd Street  
Yakima, Washington 98901

Attention: Bill Preston, P.E., Yakima City Engineer

Subject: Former Tiger Oil West Nob Hill Site  
Facility Site ID: 469, Cleanup Site ID: 4919  
2312 West Nob Hill Boulevard, Yakima, Washington 98902  
Proposal and Scope of Work for Supplemental Task 1B Work Order  
NEBS Pilot Study Work Plan & Baseline Groundwater Monitoring Event with Microbial  
Sampling/Analyses

Dear Bill Preston:

Haley & Aldrich, Inc. (Haley & Aldrich) is pleased to submit this proposal for engineering and environmental services in connection with the above-referenced site (the Site) and supplemental tasks to the previously approved Task 1, Sub-Slab Depressurization System (SSDS) Pilot Testing and Design, on 14 December 2022. The Supplemental Task 1B Work Order is comprised of tasks requested by the City of Yakima (City) and the Washington State Department of Ecology (Ecology).

## **Project Understanding**

The Site (Ecology Facility Site Number [No.] 469, Cleanup Site No. 4919) is located at 2312 West Nob Hill Boulevard, in Yakima, Washington. The Site is specific to where contamination resulting from former operations at the former Tiger Oil facility (the Property) has come to lie, irrespective of property boundaries. A retail gasoline station had operated on the Property from 1978 until 2001. Currently, there are no commercial activities at the gravel-surface undeveloped Property. Several fuel releases at the Property during its active facility operations had resulted in gasoline petroleum fuel impacts to soil and groundwater at the Property as well as to the adjoining parcels to the east, south, and southeast (the Site - Figure 1). Interim remediation and groundwater monitoring activities conducted at the Site are conducted under Amended Consent Decree No. 02-2-00956-22.

The Property is owned by Heyden Properties, LLC (Heyden Properties). The City was formerly the Property owner until 2019. The Property is currently zoned as "B-2" with designation of future land use as Community Mixed Use. Access to the Property is from West Nob Hill Boulevard and South 24th Avenue, adjacent north and west, respectively, of the Property.

Until it was purchased by Tiger Oil Corporation (New Tiger) in 1987, the Property was operated by the Tiger Oil Company as a retail fuel station. New Tiger operated the Property as an Exxon-branded fuel station and convenience store from 1987 until 2001. All commercial operations ceased in 2001 and the Property has remained vacant since 2001. The fuel station included four underground storage tanks (USTs) (one 20,000-gallon, two 10,000-gallon, and one 8,000-gallon tank) and associated product lines. The system was used for bulk petroleum storage and distribution.

Groundwater monitoring was being conducted on a semiannual basis at the Site. **Figure 1** presents the location of monitoring wells at the Site. Groundwater monitoring events in 2021 indicated that Light Nonaqueous-Phase Liquid (LNAPL) thicknesses had ranged from 0.005 to 2.79 feet within the source area at the Property and at immediate area downgradient to the east-southeast. **Figure 2** presents the estimated extent of residual LNAPL.

Groundwater at the Site is also impacted by halogenated volatile organic compounds (VOCs), typically associated with solvents from dry cleaning operations. Groundwater at the Site exhibits detections of tetrachloroethene (PCE) and vinyl chloride, at concentrations above their respective Model Toxics Control Act (MTCA) Method A cleanup levels (CULs).

Haley & Aldrich had conducted a SSDS pilot study in February 2023 to evaluate whether SSDS was a viable and effective approach for vapor mitigation at the Property, to aid in the design of the most suitable and cost-effective vapor mitigation strategy, and to better quantify the overall magnitude and size of the required vapor mitigation system. The results of the pilot testing indicated that vacuum propagation in the subsurface at the Property was limited; therefore, SSDS is not a viable vapor mitigation strategy at the Site. A full-scale barrier soil vapor extraction system was recommended for vapor mitigation. This system has the added benefits of mass removal and remediation of the shallow soils.

## Scope of Services

The tasks outlined in this Task 1B, Supplemental Work Order, are designed to be completed prior to conducting the primary tasks under Task 2, Targeted Reduction of Residual LNAPL involving the nutrient enhanced biological stimulation (NEBS) remedial technology. This technology uses the PHOSter nutrients injection technology as well as air- and gas-phase nutrients to promote cell divisions of indigenous microbes to sufficient numbers to quickly oxidize carbon-based contaminants such as petroleum hydrocarbons and chlorinated solvents.

The supplemental tasks for Task 1B include the following services:

- Prepare a NEBS remedial technology pilot study work plan, and
- Conduct a baseline groundwater monitoring event at the Site involving its 23 monitoring wells with additional monitoring/sampling activities for Microbial Insight QuantArray Petroleum and QuantArray Chlor analyses, at four selected monitoring wells, to provide an updated baseline understanding of the Site's groundwater quality conditions and insights into the existing

microbial populations conditions at selected monitoring wells located within and downgradient of the proposed NEBS pilot study remedial action, respectively.

All field construction and setup work (drilling, well installation, equipment setup, etc.) will be performed under Haley & Aldrich's oversight. Haley & Aldrich personnel will also conduct the groundwater monitoring/sampling activities.

#### **TASK 1F: PREPARE NEBS PILOT STUDY WORK PLAN**

The NEBS pilot study work plan will present the details for the construction, startup, and operation, maintenance, and monitoring (OM&M) of the NEBS system.

The work plan will include the following:

- a. A schematic of the proposed NEBS system and equipment;
- b. System and process equipment general arrangement and layout;
- c. A system process and instrumentation diagram (P&ID);
- d. System electrical panels and requirements;
- e. Identification of the proposed locations for the three injection wells;
- f. An as-built schematic for the injection wells;
- g. Identification of the four selected monitoring wells for sampling and analyses of Microbial Insight QuantArray Petroleum and QuantArray CHLOR analyses during the baseline groundwater monitoring event and for the final groundwater monitoring event after the completion of the NEBS pilot study;
- h. A schedule of the implementation for the construction, startup, and OM&M of the NEBS system; and
- i. A planning level engineer's cost estimate for the construction, startup, and OM&M of the NEBS system.

The NEBS implementation work plan, and the planning level engineer's cost estimate will be signed and stamped by a qualified professional engineer (PE) licensed in the State of Washington.

All field activities will be coordinated with Heyden Properties, the City, Ecology Site Manager, Xochimilco, Barber HQ, and 1Up Games. Haley & Aldrich will be in direct communications with the City and Ecology throughout all field activities.

This task is estimated to be completed in approximately 4 to 6 weeks from project authorization.

## TASK 1G: BASELINE GROUNDWATER MONITORING AND SAMPLING EVENT WITH MICROBIAL SAMPLING/ANALYSES

A baseline groundwater monitoring/sampling event with microbial sampling and laboratory analyses will be conducted prior to conducting the NEBS pilot study to provide a baseline and current understanding of the Site's groundwater quality conditions. The baseline groundwater monitoring event will include the following services, based on the Site's 2015 Groundwater Compliance Monitoring Plan and subsequent updated findings involving the Site's halogenated volatile organic compounds impacted groundwater:

- The static water level at the Site's 23 monitoring wells (**Figure 1**) will be measured using a water level probe.
- If LNAPL (i.e., free product) is encountered, the thickness of the LNAPL will be measured using an oil/water interface meter.
- Groundwater monitoring/sampling activities will be conducted at the Site's designated 17 compliance monitoring wells.
- The integrity of each well seal and cap will be observed to ensure potential surficial contaminants would not enter the well and will be documented.
- Groundwater monitoring and sampling activities will be conducted in general accordance with industry standard sampling protocols and consistent with the Site's Groundwater Compliance Monitoring Plan with at least one pore volume extracted from each well and field parameters stabilized before sample collection.
- Water quality parameters will be measured with a YSI meter and a turbidity meter before sample collection and will be recorded on field sampling data sheets.
- Groundwater samples will be collected using low-flow sampling techniques involving a peristaltic pump and newly replaced dedicated disposable tubing.
- A field duplicate groundwater sample will be collected.
- Groundwater samples from non-LNAPL-containing monitoring wells will be analyzed for the following constituents of concern (COCs) and geochemical parameters:
  - Gasoline-range total petroleum hydrocarbons (TPHs) by Northwest TPH Method Gx;
  - Petroleum fuel associated VOCs, specifically benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene by U.S. Environmental Protection Agency (EPA) Method 8260D;
  - Halogenated VOCs by EPA Method 8260D;
  - Nitrate by EPA Method 353.2;
  - Total manganese by EPA Method 200.8;
  - Sulfate by American Society for Testing and Materials (ASTM) International D516-07;
  - Methane by EPA National Risk Management Research Laboratory Method 175; and
  - Ferrous iron will be measured in the field, using a Hach test kit (Model IR-18C).

- The Site’s four soil vapor point monitoring wells (SVP-01 through SVP-04) screened interval (shallow, medium, and deep) will be monitored using a multi-gas meter.

Investigation-derived waste (IDW), such as purged water, generated during the groundwater monitoring event will be placed into 55-gallon Washington State Department of Transportation-approved drums and temporarily stored on Site. The waste will be disposed of once a sufficient number of drums (at least four) have been accumulated and the characterization of the IDW has been completed and approved by the regulated disposal facility.

All field activities will be coordinated with Heyden Properties, the City, and Ecology Site Manager, Xochimilco, Barber HQ, and 1Up Games. Haley & Aldrich will be in direct communications with the City and Ecology throughout all field activities.

This task is estimated to be completed in approximately three fieldwork days. This task is tentatively scheduled for 9 and 10 October 2023.

## Project Schedule

The proposed tasks will be implemented after receiving approvals from the City and Ecology. A preliminary tentative schedule for each of the key tasks is listed below:

EVENT/TASK	DURATION	ANTICIPATED TIMELINE*
Task 1F: Prepare a NEBS Pilot Study Work Plan	4 to 6 weeks	October through November 2023
Task 1G: Baseline Groundwater Monitoring Event with Microbial Sampling and Analyses	3 days	October 2023

*\*The anticipated schedule presented herein is contingent upon the approval of this Task 1B Supplemental Work Order from the City and Ecology.*

## Proposed Fee Estimate

Services for Tasks 1E2, 1F, and 1G will be conducted for a total estimated fee of **\$112,562** to be provided on a time-and-materials basis, itemized as follows. Note: Task 1E2 was pre-authorized work by the City for Haley & Aldrich to draft the proposed approach and scope of services for the NEBS remedial action technology, engaging with Smith Monitoring & Maintenance Engineering, Inc. for the NEBS remedial action technology and construction of the system, and preparing the cost estimate for the upcoming Task 2, Targeted Reduction of Residual LNAPL via the NEBS technology.

TASK NO.	TASK DESCRIPTION	HALEY & ALDRICH LABOR	SUBCONTRACTORS	TOTAL BUDGET
1E2	Pre-authorized work for preparation of a Scope of Services and Cost Estimate for construction, implementing, and conducting the NEBS Pilot Study	\$22,762	\$0	\$22,762
1F	Prepare a NEBS Pilot Study Work Plan	\$24,500	\$3,450	\$27,950
1G	Baseline Groundwater Monitoring Event with Microbial Sampling and Analyses	\$39,750	\$22,100	\$61,850
Sub-Total Budget:		\$87,012	\$25,550	\$112,562
<b>Total Budget:</b>				<b>\$112,562</b>

*\*We reserve the right to negotiate adjustments to the proposed fee amount should the assumptions, information, schedule, or authorized scope change from those noted herein.*

We anticipate that the undersigned (Yen-Vy Van) will serve as the Project Manager on the project.

## Authorization

Services will be provided on a time-and-materials basis in accordance with our “Standard Terms and Conditions, 2020” and “Standard Fee Schedule,” dated January 2022, designated 2022 PNW, which are integral to this proposal.

This proposal is valid for a period of 60 days from the date of this letter. If acceptance and authorization to proceed are not received within that period, we reserve the right to renegotiate the estimated costs, schedule for completion, and scope of services.

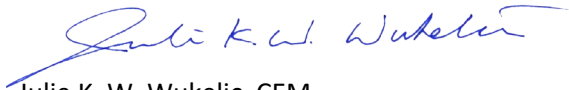
If the above arrangements are satisfactory to you, please indicate your acceptance by signing and returning one copy of this letter. When accepted by you, this proposal together with the attached Terms and Conditions and Fee Schedule will constitute our Agreement.

We appreciate the opportunity to submit this proposal and look forward to our association with you on this project. Please contact the undersigned if you wish to discuss this proposal or any aspect of the project.

Sincerely yours,  
**HALEY & ALDRICH, INC.**



Yen-Vy Van, L.H.G.  
Senior Project Manager



Julie K. W. Wukelic, CEM  
Senior Principal Engineer

**Attachments:**

- Figure 1 - Former Tiger Oil Site Plan
- Figure 2 - Estimated Extent of Residual LNAPL

Standard Fee Schedule 2022 PNW  
Standard Terms and Conditions, 2020

c: Washington State Department of Ecology; Attn.: Mary Monahan, Ecology Site Manager

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This proposal, and the attached ""Standard Fee Schedule"" and ""Standard Terms and Conditions"", are understood and accepted:

**City of Yakima**

By \_\_\_\_\_  
(authorized signature)

By \_\_\_\_\_  
(print or type name)

Title \_\_\_\_\_





Date \_\_\_\_\_



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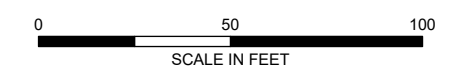


**LEGEND**

-  GROUNDWATER MONITORING NETWORK WELL
-  MONITORING WELL
-  SENTRY MONITORING WELL
-  FORMER TIGER OIL FACILITY PROPERTY BOUNDARY

**NOTES**

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: YAKIMA COUNTY
3. SITE DATA SOURCE: MAUL FOSTER & ALONGI, INC., 2016
4. AERIAL IMAGERY SOURCE: NEARMAP, 11 MAY 2021



CITY OF YAKIMA  
PROPOSED REMEDIAL ACTION PLAN AND  
LONG TERM MONITORING PLAN  
YAKIMA, WASHINGTON

**FORMER TIGER OIL  
SITE PLAN**







MAY 2022

**FIGURE 1**

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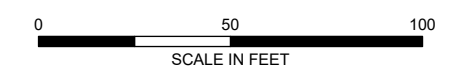


**LEGEND**

-  PROPOSED DATA GAP MONITORING WELL
-  GROUNDWATER MONITORING NETWORK WELL
-  MONITORING WELL
-  SENTRY MONITORING WELL
-  ESTIMATED RESIDUAL EXTENT OF LIGHT NON-AQUEOUS PHASE LIQUIDS (LNAPL), HALEY & ALDRICH, 2022
-  FORMER TIGER OIL FACILITY PROPERTY BOUNDARY

**NOTES**

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: YAKIMA COUNTY
3. SITE DATA SOURCE: MAUL FOSTER & ALONGI, INC., 2016
4. AERIAL IMAGERY SOURCE: NEARMAP, 11 MAY 2021



CITY OF YAKIMA  
 PROPOSED REMEDIAL ACTION AND  
 LONG TERM MONITORING PLAN  
 YAKIMA, WASHINGTON

**ESTIMATED EXTENT OF  
 RESIDUAL LNAPL**

JUNE 2022

**FIGURE 2**

**FEES FOR SERVICES**

Fees for services will be based on the time worked on the project by staff personnel plus reimbursable expenses. The fee will be computed as follows.

1. Labor related fees will be computed based on personnel billing rates in effect at the time the services are performed. Personnel billing rates are subject to revision on, or about, 1 January and 1 July of each year. The hourly rates are fully inclusive of fringe benefits, burden, and fee. Current rates are provided in the table below.

<i>Classification</i>	<i>Hourly Rate</i>
<i>Project Support</i>	<i>\$115</i>
<i>Technician</i>	<i>\$110</i>
<i>Project Technician</i>	<i>\$120</i>
<i>Senior Technician</i>	<i>\$135</i>
<i>Project Controls</i>	<i>\$140</i>
<i>Staff Professional 1</i>	<i>\$125</i>
<i>Staff Professional 2</i>	<i>\$150</i>
<i>Project Professional</i>	<i>\$165</i>
<i>Technical Specialist / Modeler</i>	<i>\$170</i>
<i>Project Manager / Senior Technical Specialist</i>	<i>\$200</i>
<i>Senior Project Manager / Technical Expert</i>	<i>\$235</i>
<i>Program Manager / Senior Technical Expert / Principal</i>	<i>\$270</i>
<i>Senior Principal</i>	<i>\$305</i>

2. Pre-trial conferences, depositions, and expert testimony will be billed at one and one-half (1.5) times the rates quoted above.
3. Second and Third Shift, Weekend, and Holiday hours will be billed at \$40/hour premium. Second and Third Shifts are those starting between 4 PM and 4 AM.
4. Field visits will be billed at 4-hour minimum; night shifts will be billed at 8-hour minimum. Cancellation of scheduled night shift within 24 hours will be charged the full 8 hours.
5. Direct non-salary expenses will be billed at our cost plus fifteen (15) percent, except for employee vehicle use which will be billed at IRS allowed mileage rates.
6. General project-related expenses such as mobile phone expenses (including mobile app fees); in-house reproduction; printing costs for reports, drawings, and other project records; mail and overnight document delivery; and long-term electronic and paper document storage will be billed as a general communication fee at a rate of four (4) percent of the labor charges.
7. Subcontractors will be billed at our cost plus fifteen (15) percent.
8. Equipment and laboratory testing will be billed at rates listed in the attached Equipment and Laboratory Rate Schedules, as applicable.

**EQUIPMENT RATE SCHEDULE**

<b>AIR MONITORING EQUIPMENT</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>
<i>Drager/Rae Sampling Kit (tubes not included)</i>	\$10	\$40	\$120
<i>Dust Monitor</i>	\$100	\$400	\$1,200
<i>Four-Gas Meter</i>	\$43	\$172	\$516
<i>Photoionization Detector - 10.6 or 11.7 eV</i>	\$70	\$280	\$840
<b>FIELD TESTING</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>
<i>Double Ring Infiltrometer</i>	\$250	---	---
<i>Field Supplies</i>	\$28	\$112	\$448
<i>Guelph Permeameter</i>	\$150	---	---
<i>Inclinometer Readings</i>	\$250	---	---
<i>Sand Cone Field Density Kit</i>	\$75	\$225	\$725
<i>pH Meter</i>	\$15	\$60	\$180
<i>Pile Load Testing (per test)</i>	\$1,500	---	---
<i>Plate Load Tester (per day)</i>	\$50	---	---
<i>Pit Box Test (per day)</i>	\$400	---	---
<i>Slug Test Kit (per day)</i>	\$350	---	---
<i>Wood Pile Load Testing (per test)</i>	\$250	---	---
<b>SAMPLING EQUIPMENT</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>
<i>Groundwater Sampling Bundle with Bladder Pump</i>	\$315	\$1,000	\$3,000
<i>Groundwater Sampling Bundle with Peristaltic Pump</i>	\$250	\$750	\$2,100
<i>Groundwater Sampling Bundle with Grundfos Pump</i>	\$350	\$1,100	\$3,100
<i>Rotohammer Drill</i>	\$100	\$400	---
<i>Soil Sampling or Tank Pull Equipment Bundle</i>	\$150	\$350	\$1,050
<i>Soil Vapor Sampling Bundle</i>	\$400	\$1,400	\$2,600
<i>Turbidity Meter</i>	\$20	\$80	\$240
<i>YSI Meter with Flow Cell</i>	\$100	\$400	\$1,200
<b>WATER LEVEL METERS AND INTERFACE PROBES</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>
<i>Barologger</i>	\$10	\$40	\$120
<i>Levelogger</i>	\$25	\$100	\$300
<i>Oil/Water Interface Probe</i>	\$50	\$200	\$600
<i>Water Level Indicator</i>	\$20	\$80	\$240
<b>GEOTECHNICAL INSTRUMENTATION</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>
<i>Cone Penetrometer</i>	\$15	\$60	\$180
<i>Dynamic Cone Penetrometer</i>	\$150	---	---
<i>Electronic Readout Box</i>	\$25	\$100	\$300
<i>In-Place Inclinometer Rental</i>	---	---	\$1,250
<i>Nuclear Density Gauge</i>	\$100	\$300	\$900
<i>Power System - Battery</i>	\$5	\$20	\$60
<i>Power System - Solar</i>	\$15	\$60	\$180
<i>Seismograph - Manual</i>	\$75	\$225	\$725
<i>Seismograph - Remote Units</i>	\$100	\$275	\$825
<i>Vibration and Sound Monitoring Station</i>	\$125	\$325	\$925

**EQUIPMENT RATE SCHEDULE (continued)**

<b>MISCELLANEOUS</b>	<b>Daily</b>	<b>Weekly</b>	<b>Monthly</b>
<i>Camera - Digital</i>	\$10		
<i>Decontamination Kit (each)</i>	\$50	---	---
<i>Drone</i>	\$250	\$1,000	---
<i>Field Truck (including fuel)</i>	\$95	\$380	\$1,140
<i>Generator</i>	\$50	\$200	\$600
<i>GeoTech Sample Jars 16 oz. (per box)</i>	\$10	---	---
<i>GPS Unit</i>	\$150	\$600	\$1,800
<i>Harness with Restraint Lanyard</i>	\$40	\$160	\$480
<i>Motorola CP200d Radio (pair)</i>	---	\$35	\$140
<i>Personal Protective Equipment - Level C (per person)</i>	\$45	---	---
<i>R/V Catalyst - 26 Ft Sampling Vessel</i>	\$600	---	---
<i>Research Nets</i>	\$60	---	---
<i>Sampling Tubing (roll)</i>	\$20	---	---
<i>Saximeter II</i>	\$35	\$140	\$420
<i>Sound Level Meter</i>	\$50	\$200	\$600
<i>Tool Trailer</i>	\$300	---	---

**LABORATORY RATE SCHEDULE**

<b>SOIL CLASSIFICATION AND INDEX TESTS</b>	<b>Unit Price</b>
<i>Atterberg Limits - 1 Point</i>	\$125
<i>Atterberg Limits - 3 Point</i>	\$180
<i>Grain Size - Hydrometer and Sieve Analysis</i>	\$300
<i>Grain Size - 200 Wash</i>	\$100
<i>Grain Size- Sieve Analysis (Standard Sample)</i>	\$125
<i>Grain Size - Sieve Analysis (Bulk Sample)</i>	\$150
<i>Grain Size - Hydrometer</i>	\$175
<i>Water Content</i>	\$25
<i>Organic Content</i>	\$75
<i>Specific Gravity</i>	\$125
<i>Visual Classification</i>	\$15
<b>SOIL MOISTURE-DENSITY TESTS</b>	<b>Unit Price</b>
<i>Bulk Density</i>	\$100
<i>California Bearing Ratio (CBR)</i>	\$650
<i>Proctor - 1 Point</i>	\$120
<i>Proctor - 4 Point</i>	\$250
<i>Proctor - 4 Point (Cohesive Soil)</i>	\$300
<b>SOIL CONSOLIDATION AND STRENGTH TESTS</b>	<b>Unit Price</b>
<i>Consolidation - Constant Rate of Strain (CRS)</i>	\$650
<i>Consolidation - Incremental</i>	\$500
<i>Unconfined Compression</i>	\$100
<i>Direct Simple Shear (DSS)</i>	\$300
<i>Cyclic Direct Simple Shear (CDSS)</i>	\$650
<i>Triaxial Compression - Isotropic Consolidation</i>	\$500
<i>Triaxial Compression - Ko/anisotropic Consolidation</i>	\$800
<i>Triaxial Compression - Unconsolidated</i>	\$300
<b>SURCHARGE RATES</b>	<b>Unit Price</b>
<i>Atterberg Limits Dry Prep</i>	\$15
<i>Atterberg Limits Organic Classification</i>	\$40
<i>Sample Preparation</i>	\$120
<i>Triaxial High Pressure (over 100 psi)</i>	\$100
<i>Tube Cut (per cut)</i>	\$25
<i>Tube Extrusion</i>	\$100

*Additional H&A Laboratory analyses, pricing, and rush rates available upon request.*

1. **INTRODUCTION.** These Standard Terms and Conditions, together with the accompanying proposal and any attachments thereto ("Proposal"), constitute the Agreement between Haley & Aldrich, Inc., including its affiliates and subsidiaries ("Haley & Aldrich"), and the entity or person to whom the proposal is addressed ("Client") for the project at the project site ("Site") as may be referenced in the Proposal. Both parties agree that no third-party beneficiaries are intended by this Agreement, which is defined to include these Terms and Conditions and Haley & Aldrich's Proposal.
2. **HEADINGS.** The headings used in these terms and conditions are inserted for the convenience of the parties and shall not define, limit, or describe the scope or the intent of the provisions set forth herein.
3. **PERFORMANCE OF SERVICES.** Client agrees that Haley & Aldrich has been engaged to provide professional services only, and that Haley & Aldrich does not owe a fiduciary responsibility to Client. Haley & Aldrich's services will be performed in accordance with generally accepted practices of engineers and/or scientists providing similar services at the same time, in the same locale, and under like circumstances ("Standard of Care"). No warranty, expressed or implied, is included or intended by this Agreement.
4. **CLIENT RESPONSIBILITIES.** Except as otherwise agreed, Client will secure the approvals, Site access, permits, licenses, and consents necessary for performance of Haley & Aldrich's services under this Agreement. Client shall provide Haley & Aldrich with a plan delineating the boundaries of the Site and all documents, reports, surveys, plans, drawings, information concerning known or suspected Site conditions, above and below ground, information related to hazardous materials or other environmental or geotechnical conditions at the Site, utility information and other information that is reasonably foreseeable to be pertinent to Haley & Aldrich's services under this Agreement. If Client is not the owner of the Site, Client will make all reasonable attempts to obtain these same documents and provide them to Haley & Aldrich. Unless otherwise agreed to in writing by Haley & Aldrich, Haley & Aldrich shall be entitled to rely on documents and information Client provides.
5. **PAYMENT.** Invoices will generally be submitted monthly. Payment will be due within thirty (30) days of invoice date. Interest will be added to accounts in arrears at the rate of one and one-half (1.5) percent per month on the outstanding balance. In the event Haley & Aldrich must engage counsel to enforce overdue payments, Client will reimburse Haley & Aldrich for all attorney's fees and court costs.
6. **INSURANCE.** Haley & Aldrich will maintain: workers' compensation insurance as required under the laws of the state in which the services will be performed; commercial general liability insurance with a combined single limit of \$1,000,000 per occurrence and \$2,000,000 in the aggregate for bodily injury, including death and property damage; automobile liability insurance with a combined single limit of \$1,000,000 per occurrence; professional liability insurance in the amount of \$1,000,000 per claim and in the aggregate; and contractor's pollution liability insurance in the amount of \$1,000,000 per occurrence and in the aggregate.
7. **OWNERSHIP OF DOCUMENTS AND AUTHORIZED USE.** All documents and all processes created, prepared, or furnished under this Agreement by Haley & Aldrich are its instruments of service and all ownership and copyright rights of the same shall remain with Haley & Aldrich. Haley & Aldrich's instruments of service are prepared solely for Client and made available to Client only for the purpose set forth in the Proposal. Client may make and retain copies of Haley & Aldrich's instruments of service, opinions, or reports or otherwise related documents ("Instruments of Services") for the project at the Site. Any (1) reuse or modification of Haley & Aldrich's Instruments of Services without written verification or adaption by Haley & Aldrich for the specific purpose intended and/or (2) unauthorized use of, or reliance upon, Haley & Aldrich's Instruments of Services by any other party, or for any other project or purpose, except and unless Haley & Aldrich provides prior written authorization, shall be at Client's and/or any third party's sole risk and without any liability or legal exposure to Haley & Aldrich. Client shall indemnify, defend, and hold harmless Haley & Aldrich from all claims, damages, losses, and expenses, including attorney's fees, arising out of or resulting therefrom. Client agrees that any such verification or adaptation of Haley & Aldrich's documents and processes shall entitle Haley & Aldrich to just and proper compensation.
8. **CONFIDENTIALITY.** Haley & Aldrich will hold confidential all business and technical information obtained or generated in performing of services under this Agreement. Haley & Aldrich will not disclose such information without Client's consent except to the extent required for: (1) performance of services under this Agreement; (2) compliance with professional standards of conduct for preservation of the public safety, health, and welfare; (3) compliance with any court order, statute, law, or governmental directive; and/or (4) protection of Haley & Aldrich against claims or liabilities arising from the performance of services under this Agreement. Haley & Aldrich's obligations hereunder shall not apply to information in the public domain or lawfully obtained on a non-confidential basis from others.

9. SUSPENSION OF WORK AND TERMINATION. Client may, at any time, suspend further work by Haley & Aldrich or terminate this Agreement. Suspension or termination shall be by written notice effective three (3) business days after receipt by Haley & Aldrich. Client agrees to compensate Haley & Aldrich for all services performed and commitments made prior to the effective date of the suspension or termination, together with reimbursable expenses including those of subcontractors, subconsultants, and vendors. Client acknowledges that its failure to pay all invoices on time and in full, including accrued interest, may result in a suspension of services by Haley & Aldrich. In the event of a suspension of services due to Client's failure to pay all invoices on time and in full, Haley & Aldrich shall have no liability to Client for delay or damage to Client or others because of such suspension of services.
10. FORCE MAJEURE. Except for Client's obligation to pay for services rendered, no liability will attach to either party from delay in performance or nonperformance caused by circumstances or events beyond the reasonable control of the party affected, including, but not limited to, acts of God, fire, flood, unanticipated Site or subsurface conditions, pandemics, explosion, war, terrorism, request or intervention of a governmental authority (foreign or domestic), court order (whether at law or in equity), labor relations, accidents, delays or inability to obtain materials, equipment, fuel or transportation.
11. SUBSURFACE RISKS. Client shall disclose to Haley & Aldrich any known or suspected subsurface conditions, below ground structures, and information related to hazardous materials or other environmental or geotechnical conditions at the Site. Client recognizes that inherent risks occur in the exploration and evaluation of subsurface conditions. Even with the information the Client provides to Haley & Aldrich and a comprehensive sampling, testing and exploration program performed in accordance with the Standard of Care, certain underlying conditions and/or structures may not be identified, and Client agrees to accept this level of risk. Client agrees to indemnify and hold Haley & Aldrich, and each of their subcontractors, consultants, officers, directors, and employees (Haley & Aldrich) harmless against any and all claims, losses, liabilities or damages, direct or consequential, related to interference with subterranean structures, or other such subsurface conditions, substances, or features that are not called to Haley & Aldrich's attention in writing, shown on documents provided by Client, or could not be reasonably detected by exercising the Standard of Care.
12. HAZARDS AND HAZARDOUS MATERIALS.
- 12.1 Disclosure of Hazards (Right to Know). Haley & Aldrich will take reasonable precautions for the health and safety of Haley & Aldrich's employees while at the Site. Client will obtain from Site owner, and others as applicable, and furnish to Haley & Aldrich, prior to Haley & Aldrich beginning services under this Agreement, all available information concerning Site conditions, including, but not limited to: subsurface conditions, oil, hazardous material, toxic mold and biological conditions, radioactive or asbestos material in, on or near the Site. If such a material or condition is discovered that had not been disclosed to Haley & Aldrich, then, upon notification, Client and Haley & Aldrich shall seek an equitable adjustment to be made to this Agreement. By authorizing Haley & Aldrich to proceed with the services, Client confirms that Haley & Aldrich has not created nor contributed to the presence of any hazardous substances at or near the Site. Client agrees to assume all liability and shall indemnify, defend and hold Haley & Aldrich harmless from any claims, losses, liabilities or damages arising out of (1) personal injury or death resulting from such hazardous material or condition and/or (2) a release of hazardous substances except to the extent the release was caused by Haley & Aldrich's gross negligence or willful misconduct in the performance of the services.
- 12.2 Hazardous Materials. Before any hazardous or contaminated materials are removed from the Site, Client shall sign manifests naming Client as the Generator of the waste (or, if Client is not the Generator, Client will arrange for the Generator to sign the manifest). Client shall select the treatment or disposal facility to which any waste is taken. Haley & Aldrich shall not be the Generator, Owner, Arranger, Operator, nor will it possess, take title to, or assume any legal liability for any hazardous or contaminated materials at or removed from the Site. Haley & Aldrich shall not have responsibility for or control of the Site or of operations or activities at the Site other than its own. Haley & Aldrich shall not undertake, arrange for or control the handling, treatment, storage, disposal, removal, shipment, transportation or disposal of any hazardous or contaminated materials at or removed from the Site, other than laboratory samples it collects or tests (which shall be returned to Client for disposal). Client agrees to defend, indemnify and hold harmless Haley & Aldrich for any costs or liability incurred by Haley & Aldrich in defense of or in payment for any legal actions in which it is alleged that Haley & Aldrich is the Owner, Operator, Generator, Arranger, Treater, Storer or Disposer of hazardous waste. Capitalized terms used herein shall have the meanings assigned to them in RCRA and CERCLA.
13. DIFFERING SITE CONDITIONS. If, during the course of performance of this Agreement, conditions or circumstances are discovered, which were not contemplated or anticipated by Haley & Aldrich, or otherwise provided to Haley & Aldrich by the Client, at the commencement of this Agreement or which differ materially from those indicated in Haley & Aldrich's Proposal, Haley & Aldrich may notify Client in writing of the newly discovered conditions or circumstances, and Client and



Haley & Aldrich shall renegotiate, in good faith, the scope of work and terms and conditions of this Agreement. If amended terms and conditions cannot be agreed upon within thirty (30) days after notice, Haley & Aldrich may terminate this Agreement.

14. SAMPLES. Samples of soil, rock, water, waste, or other materials collected from the Site may be disposed of sixty (60) days from sampling date unless Client advises otherwise in writing or unless applicable law requires their retention. Haley & Aldrich will dispose of such samples with a qualified waste disposal contractor. Client shall pay all costs associated with the storage, transport, and disposal of samples, and agrees to indemnify, defend and hold Haley & Aldrich harmless for any liability arising therefrom. If samples must be stored by Haley & Aldrich for longer than sixty (60) days from sampling date, Client shall pay all associated storage costs. Client recognizes and agrees that Haley & Aldrich is a bailee and assumes neither title to said waste or samples nor any responsibility as generator of said waste or samples.
15. ENGINEERING/CONSULTING SERVICES DURING CONSTRUCTION. Haley & Aldrich shall not, during construction Site visits, shop drawing review, or as a result of observations of construction work, supervise, direct, or have control over any contractors' means, methods, work sequences or procedures of construction selected by contractors. Haley & Aldrich shall not be liable for any of contractors' work, safety precautions or programs incident to contractors' work. Haley & Aldrich shall not have any liability whatsoever for any failure of contractors to comply with any laws, rules, regulations, ordinances, codes or orders. Haley & Aldrich neither guarantees nor warrants the performance of any contractors' work and does not assume responsibility for any contractors' failure to furnish any labor, materials, equipment or related work in accordance with any agreement or contract documents.
16. ADDITIONAL SERVICES. Haley & Aldrich's compensation hereunder shall be subject to adjustment to recognize any increase in costs due to additional services requested or authorized by Client. Such additional services shall include, but not be limited to, additions in the manner or method of Haley & Aldrich's performance of Services or due to changes in schedule or circumstances not solely caused by or under the control of Haley & Aldrich. These additional services shall be verified in writing by the parties and performed on the basis of mutually agreed rates, or other such basis agreed to by the parties.
17. WAIVER OF CONSEQUENTIAL DAMAGES. Neither party, nor their parent, affiliated or subsidiary companies, nor the officers, directors, agents, employees, or contractors of any of the foregoing, shall be liable to the other in any action or claim for incidental, indirect, special, collateral, punitive, exemplary or consequential damages arising out of or related to the services, whether the action in which recovery of damages is sought is based upon contract, tort (including, to the greatest extent permitted by law, the sole, concurrent or other negligence, whether active or passive, and strict liability of any protected individual or entity), statute or otherwise.
18. WAIVER OF PERSONAL LIABILITY. No officer, director, or employee of Haley & Aldrich shall bear any personal liability to Client for any injuries, claims, demands, losses, expenses or damages, of whatever kind or character, arising out of or in any way related to this Agreement or the performance of services hereunder.
19. LIMITATION OF REMEDIES. To the fullest extent permitted by law, the total aggregate liability of Haley & Aldrich, its officers, directors, and employees to Client, and anyone claiming by, through, or under Client, including all authorized Relying Parties, as applicable, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to Haley & Aldrich's services, from any cause or causes whatsoever, including, but not limited to, negligence, errors, omissions, strict liability or contract, shall be limited to an aggregate amount of \$50,000 or Haley & Aldrich's fee, whichever is greater.  
  
If Client prefers not to limit Haley & Aldrich's liability to this sum, Haley & Aldrich may increase this limitation upon Client's written request, provided that Client agrees to pay an additional fee agreed to by the parties. The additional fee is for the additional risk assumed by Haley & Aldrich and is not a charge for additional liability insurance.
20. DISPUTE RESOLUTION. If a dispute arises out of or relates to this Agreement or the breach thereof, the parties will attempt in good faith to resolve the dispute through negotiation. Except for payment matters, if a dispute is not resolved by these negotiations, the matter will be submitted to non-binding mediation with a mutually agreed upon mediator. The parties agree that they will participate in the mediation in good faith and that they will share equally in its costs. Except for payment matters or to preserve mechanics' lien rights, neither party will commence a civil action until after the completion of an initial mediation session.
21. LEGAL ACTION. All legal actions by either party against the other for any cause or causes, including, but not limited to, breach of this Agreement, negligence, misrepresentations, breach of warranty or failure to perform in accordance with the

Standard of Care, however denominated, shall be barred two (2) years from the day after completion of Haley & Aldrich's Services. Client agrees to compensate Haley & Aldrich for services performed in response to any legal action, subpoena, or court order arising out of or related to Haley & Aldrich's services under this Agreement at Haley & Aldrich's Standard Fee Schedule then in effect.

22. **TAXES.** Unless otherwise provided for in the scope of services, Haley & Aldrich's fee is exclusive of sales, use, or similar tax imposed by taxing jurisdictions on the amount of fees or services. Should such taxes be imposed, Haley & Aldrich will collect and remit any applicable sales taxes. Client's documentation of exemption from sales or use taxes, if any, must be provided to Haley & Aldrich prior to services being performed.
23. **SEVERABILITY.** If any of these Terms and Conditions are finally determined to be invalid or unenforceable in whole or part, the remaining provisions shall remain in full force and effect and be binding upon the parties. The parties agree to reform these Terms and Conditions to replace any such invalid or unenforceable provision with a valid and enforceable provision that comes as close as possible to the intention of the stricken provision.
24. **SURVIVAL.** All Terms and Conditions contained herein shall survive the completion of Haley & Aldrich's services on this project or the termination of services for any cause.
25. **GOVERNING LAW AND JURISDICTION.** This Agreement shall be solely governed, and construed and enforced, in accordance with the laws of the State or Commonwealth where the services are performed, without regard to its conflict of laws rules. Client agrees to submit and consent to the jurisdiction of the courts in that State or Commonwealth in any action brought to enforce (or otherwise arising from or relating to) this Agreement.
26. **ASSIGNMENT.** This Agreement shall not be assigned by either party without the express written consent of the other.
27. **PRECEDENCE.** These Terms and Conditions shall take precedence over any inconsistent or contradictory provisions contained in any proposal, contract, purchase order, requisition, notice to proceed, right of entry, or like document.
28. **ENTIRE AGREEMENT.** **Client and Haley & Aldrich agree that all provisions of these Terms and Conditions were mutually negotiated and agreed upon, and that this Agreement represents the entire Agreement between the parties.** No modification or alteration of any provision of this Agreement shall be binding upon either Client or Haley & Aldrich, unless such modification or alteration is mutually agreed to, is in writing, and is signed by the party against whom such modification or alteration is sought to be enforced.

**END OF TERMS AND CONDITIONS**