

Ms. Brittnay Lopez
Assistant County Manager
Tooele County
47 South Main Street
Tooele, Utah

November 9, 2023
Project No. 2562-001D

SUBJECT: Proposal for Installation of One Sub-Slab Depressurization System and Additional Subsurface Investigation Activities
Former NU Cleaners Property
53 East Vine Street
Tooele, Utah

In accordance with your request, we have prepared this cost estimate for installing one sub-slab depressurization system at the Tooele Senior Center (TSC) located adjoining east of the former NU Cleaners (Site) dry cleaner where a release of chlorinated solvent chemicals has impacted the soil gas under TSC resulting in potential impacts to indoor air. Also, additional subsurface investigation (SI) activities are proposed at the Site which is located 53 East Vine Street in Tooele, Utah. The proposed SI activities would consist of advancing five 50-foot borings and one 100-foot boring, to be converted into a vapor monitoring well, at the Site to facilitate the collection of soil and soil gas samples.

BACKGROUND

In 2021, Mr. Bryan Slade with the Tooele County Health Department (TCHD) contacted Wasatch and requested that investigations be completed at the Site to determine if a release of dry cleaner chemicals has occurred at the Site.

In May 2021, Wasatch completed site mapping and sub-slab soil gas sampling activities at the Site. The purpose of that investigation was to survey potential release points within the Site, evaluate soil gas concentrations to determine if a release of typical dry-cleaning chemicals has occurred at the Site, and evaluate the potential risk for vapor intrusion.

Wasatch collected four sub-slab soil gas samples from within the on-Site building to evaluate the soil gas concentrations present. The sample locations were biased to potential release areas. Soil gas with elevated chlorinated solvents (tetrachloroethene [PCE] and trichloroethene [TCE]), typical chemicals used during the dry-cleaning process, were detected at concentrations that exceeded United States Environmental Protection Agency (U.S. EPA) Vapor Intrusion Screening Levels (VISL) for Residential and Commercial Target Sub-Slab and Near-Source Soil Gas Concentrations (TSSGCs).

Based on the results of the soil gas sampling, Wasatch concluded that a significant release of chlorinated solvents has occurred at the Site as a result of dry-cleaning activities, which represents a vapor intrusion risk.

Given the totality of the data, Wasatch recommended the following:

- This release be reported to the Utah Division of Waste Management and Radiation Control or the Utah Voluntary Cleanup Program.
- Additional investigations be completed to define the nature and extent of the impacts to the subsurface and to determine if impacts have migrated beyond the Site boundaries.

- Given that the former dry cleaner adjoins the western wall of a senior center, Wasatch recommends that sub-slab soil gas samples be collected from beneath the senior center to evaluate potential vapor intrusion risks and determine if mitigation measures are warranted.

Wasatch also stated that if the Site was planned to be occupied, that the vapor intrusion risks be mitigated through the use of a vapor barrier or adequate sub-slab depressurization system.

Based on the recommendations, the Client requested that Wasatch provide regulatory and field support to obtain closure of this release. To facilitate further Site investigation activities the Client requested that Wasatch demolish the on-Site building which was demolished by Wasatch on May 10 and 11, 2022.

In April 2022, the city of Tooele applied for a Phase I and Phase II Environmental Site Assessment (ESA) for the Site through EPA's Region 8 TBA program. The July 2022 Phase I ESA completed by Tetra Tech, Inc., (TT) identified the following recognized environmental conditions (RECs), vapor encroachment conditions (VECs), and business environmental risks (BERs):

The following REC was identified during the Phase I ESA:

- The property north of Vine Street historically hosted an automotive facility and a printing facility, which could have contributed to identified chlorinated solvents beneath the Site, posing a REC for the Site.

The following REC/VEC was identified during the Phase I ESA:

- The Site historically hosted a dry-cleaning facility and a previous investigation by Wasatch Environmental in June and August of 2021 identified chlorinated solvents below the existing slab, posing a REC and a VEC for the adjacent TSC and for potential new structures at the Site.

The following BERs were identified during the Phase I ESA:

- Asbestos-containing material (ACM) could be present in remaining mastic associated with floor tile on the concrete slab, posing a BER for the Site.
- Lead-based paint (LBP) may be present on the painted foundation of the remaining concrete slab, posing a BER for the Site.

According to TT, the EDR database also identified a former dry-cleaning facility at 35 Vine Street west of the Site. This historical dry-cleaning facility (Webster Charles E) was downgradient of the Site and is not likely to cause or contribute to adverse environmental impacts at the Site. Available documentation suggested that NU Cleaners was originally located at 35 Vine Street and moved to 53 East Vine Street in 1970.

In March 2023, TT completed Phase II ESA activities that consisted of the advancement of five shallow soil borings (SB-01 through SB-05) that facilitated the collection and analysis of shallow soil samples at the Site, and the collection of three sub-slab soil gas samples (SG-01 through SG-03).

Based on the soil and soil gas data collected, TT recommended that further investigation be completed at the Site to understand the extent of degree of impacts at the Site. Additionally, the installation of a vapor mitigation system at the TSC has been recommended.

Mr. Bryan Slade with the TCHD, requested that Wasatch install vapor mitigation measures at the Site and conduct further investigations of the release at the Site.

SCOPE OF SERVICES

To abate the vapors that are accumulating beneath the concrete floor slabs of the TSC, Wasatch personnel would install one sub-slab depressurization system in the basement of the TSC. No emissions monitoring is currently required by the Utah Division of Air Quality.

To evaluate the vertical extent of soil contamination, Wasatch personnel would conduct the following activities at the Site:

- Advance five direct-push borings in locations in and outside of the suspected source area, to a planned depth of 50 feet below ground surface (bgs) for the purpose of evaluating the stratigraphy of the upper 50 feet of sediment;
- Advance one ODEX boring in a location within, or immediately adjacent to the source area, to a planned depth of 100 feet bgs for the purposes of collecting soil samples and installing approximately five permanent soil vapor monitoring points; and
- Collect one round of soil gas samples from each of the soil gas monitoring points that are installed, approximately one week after installation.

The proposed boring locations are shown in Figure 2.

Installation of Sub-Slab Depressurization System

One sub-slab depressurization system would be installed at the northwestern wall of the TSC building to abate known soil gas impacts originating from the adjoining west dry cleaner. The conceptual design for the systems is shown in Figure 1. The affected building area and approximate location of the proposed system is shown in Figure 2. Each system would be powered by a Fantech FR-150 6" (or equivalent) duct fan rated at 230 cubic feet per minute (CFM) and mounted on the building exterior or interior. The fan would each be wired directly to a dedicated circuit breaker installed in the existing circuit breaker panels. The system would be plumbed using 4-inch schedule 40 PVC pipe. The pipe would be installed so as to fully penetrate the concrete floor slabs and draw vapors from beneath the slabs. All wall and floor penetration will be sealed with caulk or expanding foam sealant to form air-tight seals. Vent stacks will be extended up the exterior walls to a minimum height of two feet above the roof line.

Direct Push Soil Sampling

As depicted on Figure 2, Wasatch would advance 5 borings using direct-push drilling techniques to evaluate soil conditions at the Site. Borings GP-1 through GP-5 would be advanced to a depth of 50 feet bgs.

At least 48 hours prior to conducting any drilling activities, Wasatch will submit a Blue Stakes of Utah utility clearance request. All private utilities must be marked by the Site owner, as Wasatch will not be responsible for damage to unmarked private utilities.

Soil core samples would be collected continuously from 5-foot long by 1.5-inch diameter discrete interval push samplers equipped with disposable polybutyrate liners. Soil samples would be collected continuously and field logged by an experienced geologist. The field logging would include a description of color, moisture content, consistency, odor, staining, and soil type based on the Unified Soil Classification System and screened in the field with a photoionization detector (PID). The PID is utilized to identify soils which may have been impacted by volatile organic compounds (VOCs) such as those found in petroleum constituents and some chlorinated solvents.

Three VOC soil samples will be collected from borings GP-1 and GP-5. The upper samples will be collected at the depth interval exhibiting the highest degree of impacts based on field observations (i.e.,

soil staining, odors, and elevated PID readings. The lower two samples will be collected at depth intervals below the impacts to define the vertical extent of impacts. One PFAS soil sample would be collected from each boring at a depth of 20 feet bgs.

All soil samples collected for VOCs analysis will be collected with gloved hands using the U.S. EPA 5035A collection method. All soil samples collected for PFAS analysis will be collected with gloved hands and dispensed into 4-ounce HDPE jars. All soil samples will be delivered under chain-of-custody protocol to Pace National (Pace), a Utah-certified analytical laboratory, for analysis.

The following soil analysis would be completed:

- All samples would be analyzed for VOCs by U.S. EPA Method 8260D.
- One soil sample from each boring would be analyzed for PFAS by U.S. EPA Method 1633.

ODEX Boring

One ODEX boring would be advanced to a planned depth of 100 feet bgs. This boring would be completed in the same location as the GP-5 boring. This boring would be advanced in 5-foot increments, after 50 feet bgs, to allow split spoon samples to be collected at five-foot intervals for laboratory analysis and logging of soil type. A total of 5 soil samples are anticipated to be collected below 50 feet bgs. The soil samples would be field screened with a parts per billion range PID. If no indication of impacts are observed, these soil samples would be collected at 60, 70, 80, 90, and 100 feet bgs. Soil samples for laboratory analysis would be collected with gloved hands in using the U.S. EPA 5035A collection method. The split spoon sampler would be decontaminated using an Alconox® wash, and triple rinsing with deionized water. Samples would be delivered under chain-of-custody to Pace for analysis of VOCs using U.S. EPA Method 8260D. Soil cuttings would be collected when available and logged according to soil type (Unified Soil Classification), color, and moisture content.

After the final depth of the ODEX boring has been reached, a series of permanent soil vapor monitoring points would be installed at various depths (approximately 20, 40, 60, 80, and 100 feet bgs or to be determined based on field observations) to allow for discrete interval monitoring of the soil vapor in, or immediately adjacent to, the source area. A total of five soil vapor monitoring points are planned. Approximately two feet of sand pack would be installed for each vapor monitoring point (placed a minimum of six inches above and six inches below the vapor monitoring point). The vapor monitoring points would be sealed and isolated from each other using a one-foot layer of granular bentonite followed by a minimum of four feet of hydrated granular bentonite. The remainder of the interval between the bentonite seals for the vapor points would be filled with play sand or additional bentonite. Teflon lined tubing (¼" O.D.) tubing would be installed from the ground surface and extend to each soil vapor monitoring point. The tubing for each monitoring point would be permanently labeled with the depth of the monitoring point. The tubing would be cut to a length that can be rolled-up inside the manhole. The ODEX boring would be completed at the ground surface with a 12-inch diameter, traffic rated, man hole which will house and protect the tubing from the soil vapor monitoring points.

Soil Gas Sampling

Approximately one week following the installation of the soil vapor monitoring points, Wasatch would collect one round of soil vapor samples from the soil vapor monitoring points installed in, or immediately adjacent to, the source area (installed in the ODEX boring). The soil vapor samples would be collected by attaching tubing to the sampling port on each for each soil vapor monitoring point and to a Summa canister with a 30-minute sample flow regulator attached. The Summa canisters would be labeled with the appropriate sample location, as well as initial and final vacuum readings. The samples would be delivered to ALS labs under chain of custody for VOC analysis using method TO-15.

Report Preparation

Wasatch would produce a report documenting the results of the investigation, including narrative text, data tables, boring logs, and a sample location map.

COST ESTIMATE

The estimated cost to conduct the described activities would be \$53,947.55. Wasatch would not perform activities outside the described scope of services without prior approval from the client. The proposed budget assumes laboratory analysis on a standard 7 to 10-business day turnaround time and field conditions conducive to advancing borings with the selected drilling techniques. Expedited laboratory turnaround times may be requested to meet the project deadline. The additional cost for laboratory expedition of sample analysis can be provided upon request. The proposed investigation is designed to identify potential environmental impacts based on information documented at the Site. It is not designed to fully delineate the nature and extent of all environmental impacts.

AUTHORIZATIONS

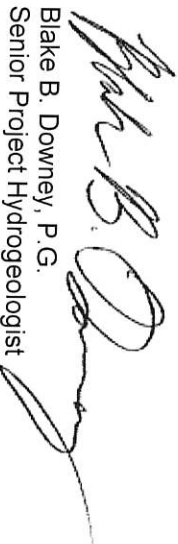
Our services consist of professional opinions and recommendations made in accordance with generally accepted environmental engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied.

Please acknowledge your acceptance of the scope of services and terms and conditions discussed herein by signing one copy of this letter and returning it to our office at your earliest convenience.

Should you have any questions, please do not hesitate to contact us.

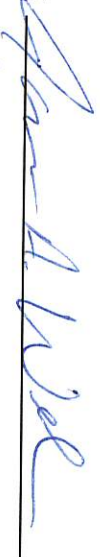
Sincerely,

WASATCH ENVIRONMENTAL, INC.


Blake B. Downey, P. G.
Senior Project Hydrogeologist

Attachments:

1. Cost Estimate
2. Fee Schedule and Terms and Conditions
3. Figure 1 – System Design
4. Figure 2- Proposed Boring and Sub-Slab Fan Location Map

Accepted By:  Date: 11/28/2023

Print Name: James A. Wdela Title: Senior Manager



**ENVIRONMENTAL ENGINEERING SERVICES
2023 SCHEDULE OF FEES**

PERSONNEL	Per Hour
CLERICAL	
Administrative Support	\$60
Information Technology/Draftsperson/CAD	\$78
Claims/Contract Specialist	\$80
HAZMAT / ASBESTOS	
Certified Asbestos Inspector/Sampler	\$103
Certified Asbestos Supervisor/Management Planner	\$120
Asbestos Project Designer	\$141
ENVIRONMENTAL	
Environmental Technician I	\$60
Environmental Technician II	\$66
Environmental Technician III	\$82
Environmental Scientist	\$92
Staff Engineer/Geologist/Hydrogeologist/Scientist	\$98
Senior Field Engineer/Geologist/Hydrogeologist	\$107
Project Engineer/Geologist/Hydrogeologist/Scientist	\$133
Senior Project Engineer/Geologist/Hydrogeologist/Scientist	\$141
Principal Engineer/Environmental Manager	\$160
Expert Witness	\$350
All personnel time is on a portal-to-portal basis.	

EQUIPMENT	Unit of Measure	Rate
Absorbent Well Socks – 2”	Each	\$3
Anemometer, Digital Thermal	Day	\$30
Bailer/Disposable (For 2” Well)	Each	\$12
Bailer/Disposable (For 4” Well)	Each	\$25
Bailer/Stainless Steel ¾”	Day	\$12
Bladder Pump	Day	\$100
Bladder Pump Tubing	Foot	\$1
Replacement Bladders	Each	\$15
Borescope	Day	\$25
CO/O2 Meter	Day	\$60
Colortek Kit	Day	\$50
Colortek Sample w/Tubes	Each	\$35
Comb. Water Quality Meter (TROLL)	Day	\$125
Compressor	Day	\$80
Confined Space Blower (Axial Fan & Tube)	Day	\$65
Confined Space Entry Equipment	Day	\$150
Diaphragm Pump – Water (Wacker 2”)	Day	\$31
DO Meter	Day	\$40
Down Well Pump 1-1/2” or 2”	Day	\$35
Flow Meter	Day	\$5
Forklift	Day	\$100



Generator 3,500 Watt 120/240V 20Amp	Day	\$55
GPS/Trimble GEO XT	Day	\$150
Groundwater Filters 0.45 Micron	Each	\$27
Hach Kit, Nitrate Test or Ferrous Iron Test	Each	\$12
Hand Auger	Day	\$25
H2S, Single Gas Detector	Day	\$40
Helium Shroud	Ea	\$105
IBCTote Mixer -275 Gal	Day	\$55
Impact Drill (HILTI) TE-15 ATC - (Small Diameter)	Day	\$35
Impact Drill (HILTI) TE-70 ATC (Large Diameter)	Day	\$55
Interface Probe (Oil/Water)	Day	\$45
ISCO 3700 Sampler	Day	\$90
LEL/Oxy Meter	Day	\$60
Magnetometer	Day	\$50
Metal Detector	Day	\$30
Monitoring Well J-Plug – 2"	Each	\$18
Oil Screen Soil Test Kits	Each	\$15
Peristaltic Pump	Day	\$30
pH Meter	Day	\$25
PID/OVM ppb or ppm	Day	\$85
PID, 11.7eV Lamp (Chlorinated Solvents)	Day	\$100
Power Pressure Washer	Day	\$70
Protective Gear	Day	\$25
Pump, Mold/Asbestos	Day	\$85
Pump, Personal Air Quality Pump	Day	\$85
Sampling Supplies – Well (Ea)	Each	\$15
Sampling Supplies - Disposable	Day	\$25
Soil Gas Tubing (1/3" Teflon Lined Tubing)	Foot	\$1.50
Soil Vapor Pin (Permanent Installation)	Each	\$60
SS Mega Monsoon Sub Pump	Day	\$140
Submersible Pump – 30 foot	Day	\$50
- Sand Handler	Day	\$30
- 4" Submersible	Day	\$10
- 1" w/Controller	Day	\$85
Sub-Slab Soil Vapor Pin Kit	Day	\$25
Subsurface Soil Vapor Pin Kit	Day	\$125
Support Truck Rental	Day	\$75
Surveying Equipment	Day	\$50
Temporary Tank-(100 to 500 Gallons available)	Day	\$15
Trailer	Day	\$65
Trash Pump, Honda	Day	\$75
UTV/ATV Rental w/Trailer	Day	\$190
Vehicle Usage (PST \$0.575 Currently)	Mile	\$0.80
XRF	Day	\$520
Water Level Indicator	Day	\$25



CHEMICAL TESTING, SUBCONTRACTORS, AND MATERIALS

Testing fees vary depending on test method, detection limit, turn-around time, and parent material. Chemical testing, subcontractors, supplies, and other pass-through costs are billed at cost plus 15 percent.

• **TRAVEL**

Auto/ Truck..... 0.80 per mile
Federal/State Government.....\$0.655 per mile*
*Charges will be based on Current Approved Federal/State Rate

• **PER DIEM**

Per Diem is charged at \$75.00 to \$150.00 (Rate may vary with location) per day for accommodations and meals. A minimum 8 hour shift will be charged for each day on per diem.

• **MISCELLANEOUS**

Special fees, outside consultant fees, analytical laboratory testing, excavation equipment, permits, special insurance, long distance telephone calls, shipping, equipment rental, special equipment purchases, and other similar project-related costs are billed at cost plus 15 percent.

• **TERMS OF PAYMENT**

Invoices will be submitted at our option on a regular basis or when the work is completed, and will be due within 15 days. If payment is not received, interest in the amount of 18 percent annually shall accrue on the unpaid amount. Any attorney's fees or other costs incurred in collecting any delinquent amount will be paid by the Client.

• **DISPOSAL OF DRILL CUTTINGS**

Excess soil generated by drilling exploratory borings and installing groundwater monitoring wells will remain on the property for which the investigation is being performed. The soil will be placed on and covered with polyethylene sheeting, or, alternatively, the soil will be placed in 50 gallon drums. After receipt of laboratory analysis of soil samples recovered from the borings, recommendations can be made as to the most economic treatment/disposal method.

TERMS AND CONDITIONS

Wasatch Environmental, Inc. (WEI) warrants that our services are performed, within the limits prescribed by our Clients, with the usual thoroughness and competence of the engineering profession. No other



warranty or representation, either expressed or implied, is included or intended in our proposals, contracts or reports.

All information and report preparation is provided for the sole benefit of the Client and may not be relied upon by any other person or entity without the written authorization of Wasatch Environmental, Inc.

We will not be liable for damage or injury arising from damage to subterranean structures (pipes, tanks, telephone cables, etc.) which are not called to our attention, or are not accurately marked by a locating service, or are not correctly shown on the plans furnished us, in connection with work performed by us. While Wasatch Environmental, Inc., will take all reasonable precautions to minimize any damage to the property, it is understood by Client that in the normal course of work some damage may occur, the correction of which is not part of this Agreement.

Nothing contained within this Agreement shall be construed or interpreted as requiring WEI to assume the status of "Generator," as that term appears within the Resource Conservation and Recovery Act, 42 USC, Section 6901, et seq., as amended, or within any state statute governing the treatment, storage, and disposal of waste.

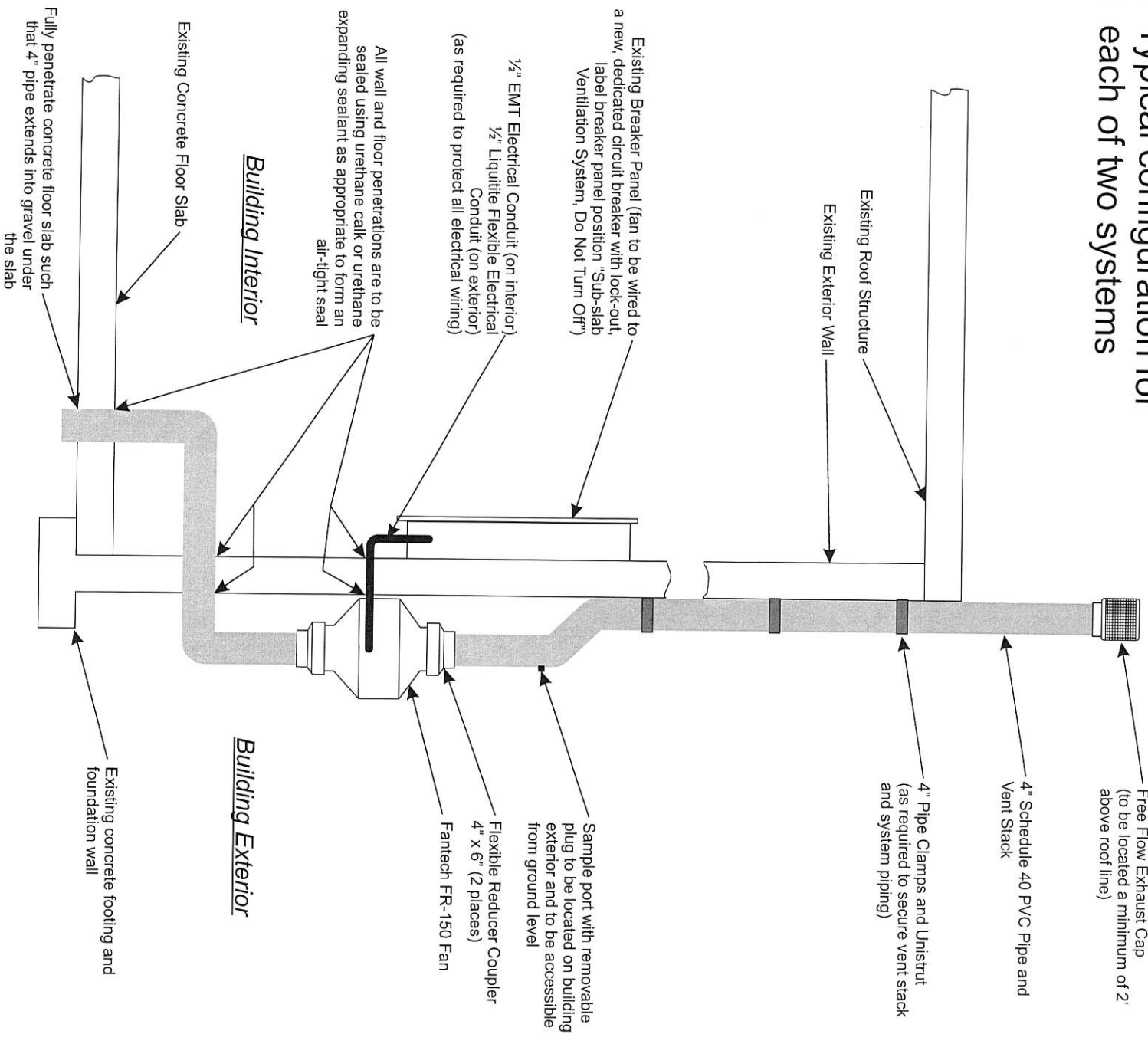
Our liability to the Client for injury or damage to persons or property arising out of work performed for the Client and for which legal liability may be found to rest upon us, other than for professional errors and omissions, will be limited to our general liability insurance coverage. For any damage on account of any error, omission or other professional negligence, our liability will be limited to a sum not to exceed the coverage of our insurance or our fee, whichever is greater.

In the event that the Client makes a claim against WEI, at law or otherwise, for any alleged error, omission or other act arising out of the performance of our professional services, and the Client fails to prove such claim upon final adjudication, then the Client shall pay all costs incurred by WEI in defending itself against the claim, including but not limited to personnel-related costs, attorney's fees, court costs and other claim-related expenses. If any action is brought to enforce this Agreement, the prevailing party shall be entitled to receive reasonable attorney's fees.

All claims, disputes, and other matters in controversy between Consultant and Client arising out of or in any way related to this Agreement will be submitted to "alternative dispute resolution" (ADR) such as mediation and/or arbitration, before and as a condition precedent to other remedies provided by law. If a dispute at law arises related to the services provided under this Agreement and that a dispute requires litigation as provided above, then: (a) Client assents to personal jurisdiction in the State of Consultant's principal place of business; (b) The claim will be brought and tried in judicial jurisdiction of the court of the county where Consultant's principal place of business is located and Client waives the right to remove the action to any other county or judicial jurisdiction; and the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' and expert witness fees, and other claim-related expenses.

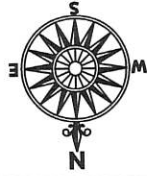
Any element of this Agreement later held to violate a law shall be deemed void, and all remaining provisions shall continue in force. However, Client and Consultant will in good faith attempt to replace any invalid or unenforceable provision with one that is valid and enforceable, and which comes as close as possible to expressing the intent of the original provision. All terms and conditions of this Agreement allocating liability between Client and Consultant shall survive the completion of the services hereunder and the termination of this Agreement.

Typical configuration for each of two systems



Drawing is not to scale

System Design **Figure 1**



1-inch is equal to 30 feet



Environmental Science and Engineering

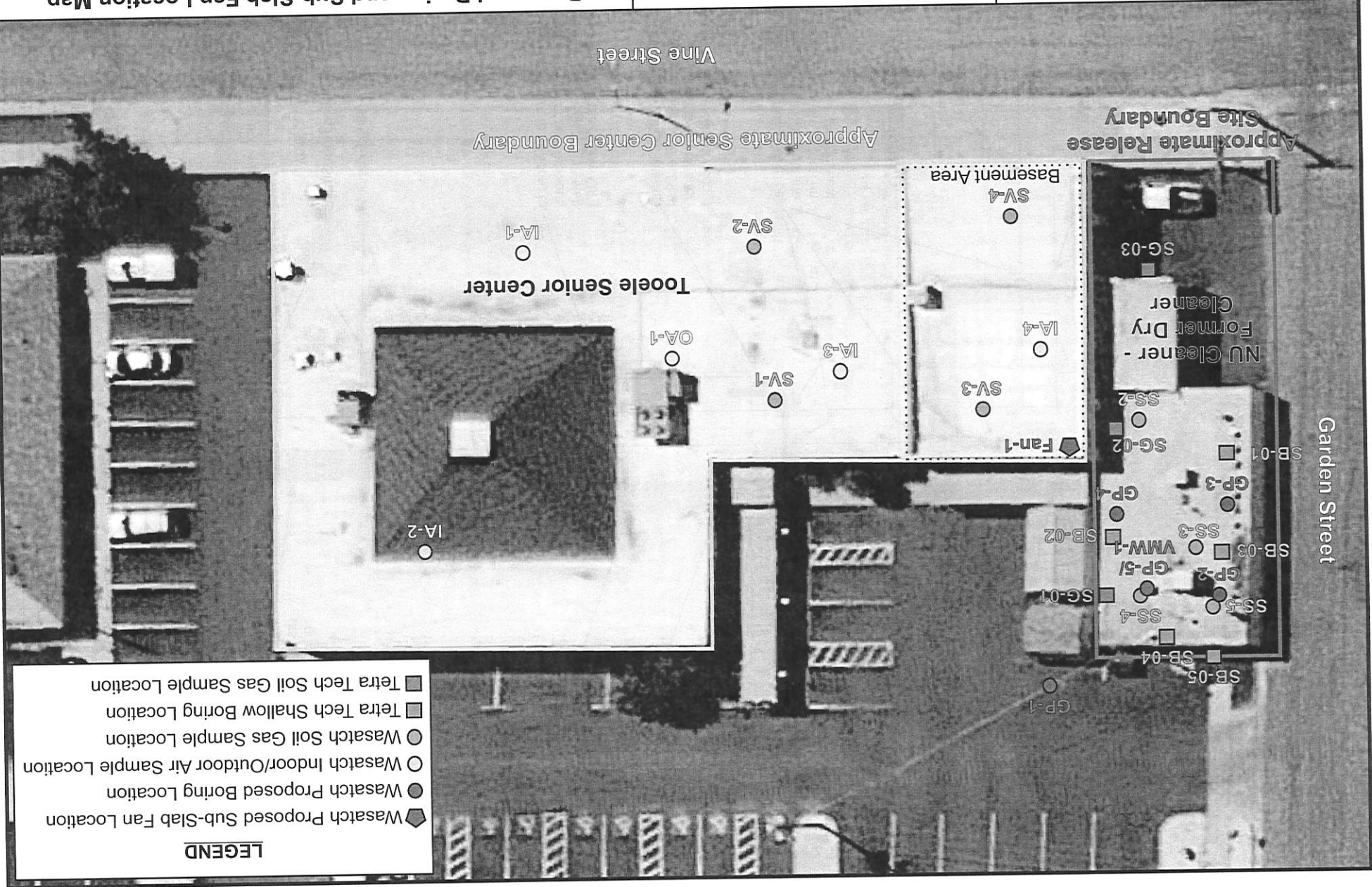
Proposed Boring and Sub-Slab Fan Location Map

Tooele Senior Center
59 East Vine Street
Tooele, Utah, 84074

DATE: 11-8-23

PROJECT NO.: 2562-001D

FIGURE 1



- LEGEND**
- ◆ Wasatch Proposed Sub-Slab Fan Location
 - Wasatch Proposed Boring Location
 - Wasatch Indoor/Outdoor Air Sample Location
 - Wasatch Soil Gas Sample Location
 - Tetra Tech Shallow Boring Location
 - Tetra Tech Soil Gas Sample Location