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April 25, 2018

Dan Albrecht, MA, MS
Senior Planner
Chittenden County Regional Planning Commission
110 West Canal Street, Suite 202
Winooski, VT 05404

Stone Proposal No. 17-142
Subject: Proposal for Phase II ESA, Champlain Transmission. 314 North Winooski Ave, Burlington, Vermont

Dear Dan,

Stone Environmental Inc., (Stone) is pleased to present the following proposal to perform a Phase II Environmental Site Assessment (ESA) to support the redevelopment of the property located at 314 North Winooski Avenue, Burlington, Vermont (the Site). The Site comprises a 0.2 acre parcel currently owned by Raymond S. & Tamara J. Whitten and Norman A, II & Cheryl A Nolan. This Phase II ESA proposal was requested by Chittenden County Regional Planning Commission (CCRPC) in your email dated April 11, 2018.

1. Background

1.1 Site Description

The Site is located at the intersection of North Winooski Avenue and Archibald Street (Figure 1). The Site includes a 1,432-square foot, single story commercial building that has been used for retail gasoline sales and as an automotive service station including transmission repairs. This building is currently vacant and was built in 1948 with concrete slab on grade and cinder block construction. The building has a two-bay garage with overhead doors, a front desk and small waiting area, a bathroom, and a storage area. The storage area was an addition constructed in 1970. There are two floor drains located in the two-bay garage that were previously connected to the sewer system but were taken out of service by the owner and plugged. There were previously two hydraulic lifts in the two-bay garage, however, the hydraulic lift in the south bay of the garage has been removed as evident by a saw-cut and backfilled excavation in the slab in the work bays of the former automotive shop. The excavated soils remained onsite in a pile located in the north bay. The excavated area was backfilled with gravel. The site is served by municipal water, sewer and gas. The garage is heated with natural gas using a Modine space heater.

There are two driveway entrances to the Site, one from North Winooski Avenue and one from Archibald Street. The parcel lot is relatively flat and consists of a paved parking area located south of the building with concrete pad remnants of a former fuel dispensing island. Stormwater from the parking area drains from the

Site to catch basins; one located on Archibald Street and one located on N. Winooski Ave. There is a vegetated area on the south side of the building that has been previously used as a drum storage area, dumpster location, and is the current location of an above ground storage tank. There is a small fence that blocks the view of this area from the sidewalk. There was a reported monitoring well located on the northwest corner of the building in the parking lot; the purpose of this well is unknown and will be further investigated (see Section 3).

The abutting property to the north is 322 N. Winooski Ave, currently owned by 322 N. Winooski Ave, LLC and operated as Old Spokes Home, a bicycle sales and repair business. This property was formerly a junk shop. The abutting property to the east is 168 Archibald Street, currently owned by Synagogue of Ahaveth Gerim. The abutting property to the south across Archibald Street is 294 N. Winooski Ave, currently owned by Irene C. Hinsdale Irrevocable Trust, with several commercial business spaces occupied by a Knead Bakery, Vermont Worker's Center, Hot Yoga Burlington Vermont, Off Center for the Dramatic Arts, Redeemer Burlington and North End Studios. This property was formerly a gasoline service station and commercial dry cleaners. The Site Plan is shown in Figure 2.

1.2 Physical Setting

The Site is located in the Champlain Valley south of the Winooski River and east of the Burlington Bay on Lake Champlain. Regional topography slopes to the north-northeast towards the Winooski River. The grade at the Site slopes to the south-southwest and to the north-northwest towards the two drive-way entrances and stormwater drains to nearby catch basins.

Bedrock in the area is mapped as sandstone and described as reddish-brown, pebbly, thin-to thick-bedded sandstone, orangey-gray and buff-weathering well-bedded dolostone, and reddish-brown-weathering dolomitic quartzite (Ratcliffe et al., 2011). According to surficial geologic mapping by the Vermont Geological Survey, native unconsolidated soils at Site are mapped as Champlain Sea deposits composed of pebbly marine sand. Soil was described as fine to medium sands with gravel, cobble and boulders during the previous underground storage tank (UST) closure assessment performed at the Site.

Surface water bodies near the Site include the Winooski River, which flows north-northwest toward Lake Champlain. There has not been an assessment of hydrology and hydrogeology performed at the Site, however, hydrogeology has been assessed during environmental investigations of nearby properties, specifically the former Vermont Transit property at 343 North Winooski Avenue. The regional aquifer has been reported at a depth of approximately 110 feet below ground surface (bgs) and groundwater flow direction has been reported to be in a westerly direction toward Lake Champlain or a northwesterly direction towards the Winooski River.

1.3 Historic Land Use

According to a review of available land use records for the Site, development of the Site began at least as early as the late 1890s, beginning with a mixed commercial (grocer, barber shop) and residential development. Mixed residential-commercial use of the Site continued in various non-environmentally significant forms until 1948, when the Site was developed as a commercial gasoline station. Automotive repair began at the Site as early as 1963 and continued until 2015 when Champlain Transmission closed operations.

1.4 Prior Environmental Management

Environmental assessment of the Site began in 1988 as a result of an underground storage tank (UST) closure. Three former USTs were closed on July 12, 1988 when the business ceased selling gasoline. During the closure assessment, the USTs were observed to be extremely corroded. Sensitive receptor impact was determined to be soil. Soil type was logged as fine to medium sands with gravel, cobble and boulders. A photoionization detector (PID) was used to screen soils at five locations including the excavation sidewall, top and bottom and PID readings ranged from 0.6 to 1.5 parts per million. Based on PID readings all soils were returned to the excavation. The VT DEC did not require any further assessment based on the results of the UST closure assessment. The tanks were removed and not replaced. The former UST location was just southwest of the Subject Property building.

Champlain Transmission Vermont Spills Database

On December 16, 1993, Gary Urich, VT DEC, Hazardous Materials Management Division investigated Champlain Transmission due to a complaint received from the Health Office in the City of Burlington for dumping transmission fluid and antifreeze. During the site inspection there was no evidence collected that illegal dumping had occurred at the Site, however it was determined that Champlain Transmission is a generator of between 220 and 2,200 pounds of hazardous waste per month and is therefore subject to RCRA Hazardous Waste Generator requirements. It was observed that hazardous waste was not being managed in accordance with generator requirements. Specifically, waste drums outside were neither stored under cover nor on an impervious surface, waste containers were not labeled, and sorbent materials were spread throughout the facility with no obvious waste container to collect used sorbent. Types of waste included waste oil, degreasers and Speedi-dri. VT DEC required Champlain Transmission to complete the Notification of Hazardous Waste Activity form and submit a copy to the VT DEC. At that time, Champlain Transmission stopped using Speedi-dri to clean up small spills and leaks to avoid hazardous waste management requirements of this material.

On February 27, 1998, a site inspection was performed by Geoffrey Kany, VT DEC, Waste Management Division (WMD) due to a spill reported as dumping fluids. The description of waste stream included waste oils, used rags, and parts washing wastes/sludges and total hazardous waste generation rate was

approximately 120 pounds/month. It appeared that all hazardous waste was managed properly. Due to snow on the ground during the February site visit, Geoffrey Kany returned the facility on April 7, 1998. The VT DEC observed *de minimis* oil staining in surface soil in the yard from small leaks of automatic transmission fluid from transmissions sitting in the yard and from parked cars leaking transmission fluid.

On September 3, 1999, John Miller, VT DEC, WMD performed a site inspection due to a complaint of oil on the ground reported by the Community Public Health Program of the City of Burlington. He described the business as a transmission shop with 5 employees that performs transmission repair and maintenance. To repair the transmission they are generally disassembled, solvent washed, gaskets replaced and reassembled. Wastes include waste transmission oil (60 gallons per month collected by Safety Kleen), spent parts washer solutions (2 Safety Kleen units on a 6 week cycle), shop rags (500/week laundered by Unifirst). Shop floor and yard are washed weekly with a biodegradable soap. Wash water in the garage goes from floor drain to city sewer. A city storm drain catch basin is located in the curb at edge of yard. It was observed that in the past the facility used numerous 55-gallon drums to store waste transmission oil before shipping it off-site or giving it to facilities with waste oil furnaces. Champlain Transmission later converted to using an exterior waste oil AST instead of drums for its waste oil. *[Note: Stone presumes this AST is the same that was observed during the Site walkover for the Phase I ESA. At the time of the Site inspection, the tank was not labeled and did not have secondary containment. The tank contained approximately 50-gallons of used oil].*

In a follow up letter from John Miller, dated September 16, 1999, it was recommended that Champlain Transmission use granular sorbents (Speedi-dri) to clean up small leaks and spills of transmission fluid rather than using biodegradable soap. It was also recommended that Champlain Transmission call Burlington Department of Public Works to inform them that residual used oil was being washed down the floor drain with the biodegradable soap into the city sewer system.

A follow up inspection was performed on November 4, 1999. It was documented that granular sorbents were used inside the garage and in the yard to clean oil staining. The report stated that the housekeeping is generally a little better, but the yard was still deeply stained with oil and ran the risk of washing rainbow sheens to the storm drain in the street. It was also noted that the property owner had yet to call Burlington Department of Public Works about his floor drain connection to city sewer system.

1.4.1 Phase I ESA, April 2018

A Phase I ESA performed by Stone in April 2018 identified the following Recognized Environmental Conditions (RECs) in connection with the Site:

- REC 1: Historical use of the Subject Property as a retail gasoline station: There is a potential of petroleum released to the subsurface environment at the location of the former fuel dispensing island, associated fuel supply lines and former underground storage tanks.
- REC 2: Historical use of the Subject Property performing automotive service repairs including general repair and transmission repair. There has been documented releases of oil and hazardous substance to the building concrete slab and exterior yard. These releases may have impacted the subsurface beneath the building slab and in the exterior yard.
- REC 3: Presence of used oil AST: There is a future threat of oil or hazardous materials being released to the subsurface environment at the location of the aboveground storage tank.
- REC 4: Presence of drum storage area: There is a potential of oil or hazardous materials released to the subsurface environment at the location of the drum storage area due to poor hazardous waste management practices reported in this area.
- REC 5: Presence of floor drains. There is a potential of oil or hazardous materials released from the floor drain and/or their associated sub-slab/surface piping to the subsurface environment.
- REC 6: Presence of hydraulic lifts: There is a potential of oil or hazardous materials released to the subsurface environment at the location of the hydraulic lifts and at the location of the excavated soil pile associated to the removed hydraulic lift.
- REC 7: Position of the Subject Property relative to nearby parcels where hazardous or petroleum materials were historically in use. There is a likely presence of hazardous substances or petroleum products at nearby properties and a potential risk of contaminant migration to the Subject Property.

2. Redevelopment Plans

To redevelop the Site into a commercial property with the intent to rent the property to a business such as a restaurant, the prospective purchaser (314 North Winooski, LLC) plans to reuse the existing building with major alterations. This would include removing the one remaining hydraulic lift in the two-bay garage, assessing and possibly removing the concrete slab and floor drain system in the two-bay garage, removing non-structural walls, renovating the bathroom space, removing the overhead garage doors and upgrading windows and doors, upgrading utilities, etc. The exterior pavement will be repaired or replaced, and general landscaping improvements will be made.

3. Phase II ESA Objectives

To support these redevelopment activities, our proposed Phase II ESA is designed to:

1. Assess whether the RECs identified in April 2018 Phase I ESA have resulted in a release of petroleum or hazardous materials to the environment;
2. Assess whether a vapor intrusion mitigation is needed to protect future Site users;
3. Provide sufficient data to prepare a, Evaluation of Corrective Action Alternatives for soil management and vapor intrusion mitigation, if needed; and
4. Perform a survey for asbestos-containing building materials to support planned renovations.

4. Scope of Services

4.1 Project Management and Coordination

Stone will convene a kickoff meeting with CCRPC, representatives of the prospective purchaser (314 North Winooski, LLC.), and the Vermont Department of Environmental Conservation (VTDEC) Site Manager to discuss the status of development plans and the proposed Phase II ESA scope and timeline. Prior to the kickoff meeting, Stone will visit the Site to inspect the reported monitoring well northwest of the building. This monitoring well will be inspected as a potential subsurface utility and it will be determined if this well is associated to the former USTs. If possible, the well will be opened and inspected for depth to water. If appropriate, this well may be used as a monitoring point for either groundwater or soil gas. This Site visit will also provide an opportunity for Stone to observe the exterior yard without snow cover to assess potential areas of oil staining and stressed vegetation.

Stone will coordinate field activities with the Site Owner. Stone will provide frequent updates to CCRPC, 314 North Winooski, LLC., and VTDEC, including project status calls following the implementation of the Phase II ESA field activities.

A Stone accountant will be responsible for preparing monthly invoices for project manager review and submittal to the CCRPC.

4.2 Quality Assurance Project Plan Preparation and Site-Specific HASP

Stone will prepare a Site-Specific Quality Assurance Project Plan (SSQAPP) for review by CCRPC, 314 North Winooski, LLC., the VTDEC Site Manager and the EPA Brownfield and Quality Assurance Programs. The SSQAPP will detail the purpose, methodologies, quality control measures, and estimated cost of the Phase II ESA. After receiving approval of the Draft SSQAPP, a Final SSQAPP will be submitted.

Stone will develop a site-specific health and safety plan (HASP) based on all available data from the Site.

4.3 Dig Safe Mark-Out

Stone will work with CCRPC, 314 North Winooski, LLC. and the Site owner to ensure access is available to the proposed investigation areas. Prior to mobilizing material and equipment to the Site, Stone will pre-mark

each proposed investigation location for Digsafe utility clearance and obtain a Digsafe ticket. Stone will also coordinate with Burlington Public Works Department and, if necessary, the Burlington Electric Department to locate Site-owned utilities and buried municipal utilities.

4.4 Vapor Intrusion Assessment and Soil Gas Survey

Stone proposes to collect up to two soil gas samples from beneath the Site building to assess the potential for vapor intrusion into this structure. Sub-slab soil gas samples will be collected using a high-volume sub-slab (HVSS) sample methodology that will also serve as a vapor mitigation pilot test. Analytical data will be used to evaluate vapor intrusion risk into the existing structure. Pilot test data will be used to design a vapor mitigation system, if warranted. HVSS extraction well locations are shown on Figure 3.

Stone will also assess the concrete slab for potential off-gassing of VOCs using passive flux chambers (vapor domes) at two locations in the work bays of the garage building. Vapor domes consist of a stainless steel dome, equipped with a sample port, sealed to the floor using hydrated bentonite. Following equilibration period of 24 hours, a grab sample is extracted through the sample port with a syringe then transferred to a Tedlar bag. Proposed vapor dome sampling locations are shown on Figure 3.

Stone will also perform a soil gas survey on the exterior portion of the Site to assess potential source areas. Ten soil gas locations will be installed using an AMS soil gas kit to a depth of 2.5 feet bgs. Stone will conduct leak testing to ensure ambient air is not drawn into the sample container. Soil gas at each location will be screened for total VOCs with a photoionization detector (PID) in the parts per billion (ppb) range. Soil gas samples will be collected at approximately half of the locations based on field screening. Proposed soil gas sample locations are shown on Figure 3.

Samples will be collected in a Tedlar bags and transported under chain of custody procedures to TestAmerica of South Burlington, Vermont (TestAmerica), for analysis of VOC by EPA Method TO-15. Soil-gas sample results will be compared to the Vapor Intrusion Values in Appendix A of the VTDEC Investigation and Remediation of Contaminated Properties Rule (I-Rule; effective July 2017).

4.5 Concrete Assessment

Stone will assess whether past use of the hydraulic lifts has resulted in an impact to concrete due to oil filled equipment containing polychlorinated biphenyl (PCB)- prior to 1979. Samples will be collected from areas of the slab that contain staining. Stone assumes up to two samples will adequately define impacts to concrete. If the proposed redevelopment plan includes replacing the existing slab, a waste characterization sample will be necessary to support landfill disposal. For the purpose of this proposal, we present costs here for both options. Proposed sampling locations are shown on Figure 3.

Concrete samples will be collected by pulverizing the upper 1/2-inch of concrete with a rotary hammer drill and placing the resulting sample in a certified clean sample jar. Multiple holes will be advanced adjacent to each other to ensure that a minimum of 20 grams of pulverized concrete is collected per sample. One field duplicate will be collected by pulverizing additional concrete and one equipment blank sample will be collected from the drill bit. The concrete samples will be placed in an ice-filled cooler and transported under chain of custody procedures to AMRO Laboratories of Merrimack, New Hampshire (AMRO) for analysis of PCBs as Aroclors via EPA Method 8082 with manual Soxhlet extraction. The waste characterization sample will be analyzed for total petroleum hydrocarbons diesel range organics (TPH-DRO), RCRA 8 Metals, VOCs and SVOCs. Concrete sample results will be compared to Toxic Substance Control Act (TSCA) high occupancy walkaway criteria and will be used to provide an appropriate waste profile for disposal.

4.6 Soil Sampling

Stone will oversee the advancement of six soil borings in known areas of concern and up to four contingent locations at the Site. Soil borings will be installed in one day with using a Geoprobe 7822DT or equivalent direct-push rig operated by Cascade Drilling of Montpelier, Vermont. The actual number of borings will be contingent upon Site conditions and findings. In addition, Stone will collect a soil sample from the excavated soil pile associated to the removed hydraulic lift that is currently located in the two-bay garage. Proposed soil boring locations are depicted on Figure 3 and summarized in Table 1 below:

Table 1. Summary of Proposed Soil and Groundwater Investigation Locations

Location / Justification	Justification	Number of Proposed Borings	Number of Soil Samples - Analyses
SB-1 West of garage on concrete pad	Former fuel dispensing island	1	1 – VOCs
SB-2 West of garage in parking lot	Former location of three 2,000-gallon gasoline USTs	1	1 – VOCs
SB-3/ SO-1 Interior location in two-bay garage	Existing hydraulic lift and excavated soil pile, waste characterization for offsite disposal	1/ 1- soil pile	2 – VOCs 1 composite - SVOCs, PP 13 Metals, PCBs, TPH-DRO, ignitability, reactivity and corrosivity
SB-4, SB-5 and SB-6 South side of garage	Drum storage area and 275-gallon used oil aboveground storage tank	3	2 – VOCs, 1 – SVOCs, PP 13 Metals, PCBs, TPH-DRO
Floor Drains	Assess potential for releases from floor drain to subsurface environment	2	2 – VOCs, SVOCs, PP 13 Metals, PCBs, TPH-DRO

VOCs = volatile organic compounds; SVOCs = semi-volatile organic compounds; PP = Priority Pollutant; PCBs = polychlorinated biphenyls, TPH-DRO = total petroleum hydrocarbons, diesel range organics

Soil borings will be recovered continuously to approximately 15 feet bgs, and soils will be logged and field-screened using a PID equipped with a 10.6eV lamp. Based on field screening including visual and olfactory evidence of contamination and PID readings, soil borings may be installed deeper. Discrete soil samples will be collected from the interval within each borehole exhibiting the highest PID measurement. If there are no PID readings greater than 5.0 parts per million a discrete soil sample will not be collected. One soil boring will be advanced in the two-bay garage at the location of the intact hydraulic lift and it is assumed the floor will need to be cored at this location using a concrete core drill. The soil boring outside at the former location of the fuel dispensing island is also on a concrete pad and the concrete will be cored using a concrete core drill. Out of the ten proposed soil boring locations, it is assumed that five discrete soil samples will be collected for analysis of VOCs; locations for non-VOC analyses, which are not based on field observations, will be collected at the proposed frequency in Table 1.

In addition to the soil boring program, the excavated soil pile associated to the hydraulic lift will be screened with a PID at five discrete locations. A discrete soil sample will be collected from the soil pile at the location exhibiting the highest PID reading. If there are no elevated PID readings, then a discrete soil sample will be collected from the middle of the soil pile at a centrally located depth.

For the purpose of this proposal, Stone assumes a total of eight soil samples will be collected for analysis of VOCs. In addition to VOC samples, Stone will collect one soil sample from the drum storage area for analysis of semi-volatile organic compounds (SVOCs), resource conservation and recovery act (RCRA) 8 metals, polychlorinated biphenyls (PCBs) and total petroleum hydrocarbon (TPH) diesel range organics (DRO). This sample location will be selected based on visual and olfactory evidence of contamination and PID readings. To assist with the redevelopment plan, including removing the remaining hydraulic lift in the two-bay garage and transporting and disposing of the excavated soil pile, Stone will collect one composite sample for waste characterization from the excavated soil pile composited with shallow soil (0 to 5 feet bgs) from the subsurface boring at the location of the intact hydraulic lift. The waste characterization analysis will include SVOCs, RCRA 8 metals, PCBs, TPH-DRO, ignitability, reactivity and corrosivity.

To evaluate potential releases from the floor drains, Stone will core through the concrete floor slab adjacent to the two floor drains. Using AMS soil coring system, Stone will collect one grab soil sample from a depth coincident with the bottom of each floor drain. Recovered soils will be field screened with a PID and the samples will be submitted for laboratory analysis in accordance with Table 1.

All soil samples will be transported under chain of custody procedures to AMRO for analysis of the following (in accordance with Table 1 above) and soil sample results will be compared to Soil Screening Values in Appendix A of the I-Rule:

- VOCs by EPA Method 8260,
- EPA Priority Pollutant (PP) 13 metals plus barium by EPA 6010 and 7471 (mercury),
- SVOCs by EPA Method 8270,
- PCBs by EPA Method 8082 with manual Soxhlet extraction, and
- TPH diesel-range organics or fingerprint by EPA Method 8015

Field duplicates will be collected at a rate of 5% (1/20) for each analysis. An equipment blank will be collected from decontaminated tooling for PCB analysis only. A trip blank will be analyzed for VOCs. Stone will use a submeter GPS to collect all sample locations within the NAD83 Datum.

Soil borings and concrete core locations will be backfilled with cuttings and bentonite grout or chips and patched at the surface to match the surrounding grade (concrete, asphalt, or sand/topsoil). Any excess soil cuttings will be placed in a 5-gallon bucket and stored at the Site pending soil sample results.

4.7 Hazardous Building Materials Survey

Stone will subcontract with Clay Point Associates, Inc. (Clay Point) of Williston, Vermont to perform a survey to identify asbestos-containing building materials in the garage. The survey will include a visual

inspection of building materials throughout the garage, including suspect asbestos roofing material, and collection of representative materials for analysis. Clay Point estimated approximately 40 samples of potential asbestos-containing building materials will be needed to complete the survey.

Clay Point will also perform a lead-based paint inspection which will include using a handheld x-ray fluorescence (XRF) analyzer. Materials that contain lead-based paint will be inventoried to inform waste segregation during the renovation activities.

4.8 Data Evaluation and Reporting

Following receipt of all laboratory analytical data, Stone will prepare a Phase II ESA Report in accordance with the VTDEC's I-Rule. The report will document field activities, include a summary of all analytical results obtained, provide an evaluation of the data, present a conceptual site model and sensitive receptor survey, identify data gaps, and offer conclusions and recommendations. The report will include full laboratory reports, field notes, and appropriate tables and figures.

Stone will deliver a client draft Phase II ESA Report to CCRPC and 314 North Winooski, LLC for review and comment. Stone will deliver a Phase II ESA Report to VTDEC and EPA after receiving approval of the client draft. A Final Phase II ESA Report will be provided to all stakeholders following comments from the regulators.

5. Project Schedule

Stone is prepared to attend a kickoff meeting and begin the SSQAPP within one week of contracting, pending the availability of project stakeholders. A draft SSQAPP can be prepared within approximately two (2) weeks of this kickoff meeting. Implementation schedules for field work and subsequent tasks can be estimated once the SSQAPP is approved. For planning purposes, we can provide the following estimated timeline:

- May 23: SSQAPP preparation and submittal – 2 weeks
- May 23 - June 25: VTDEC and EPA review period – 30 days
- July 2: Response to comments, final SSQAPP approved – 1 week
- Week of July 2: Dig Safe Markout
- Week of July 9: Vapor Intrusion Assessment and Soil Gas Survey (2 day) – to be completed 1 week following SSQAPP approval. Standard TestAmerica laboratory turnaround time is 10 business days.

- Week of July 9: Soil sampling (1 day), including building materials survey; to be completed 1 week following SSQAPP approval following Vapor Intrusion Assessment and Soil Gas Survey. Standard AMRO turnaround time is 7 business days.
- July 25: Receive analytical results for soil gas, soil and concrete samples 7 to 10 business days following sample receipt at laboratory
- August 8: Client Draft Phase II ESA Report (2 weeks)
- August 8 – August 15: Client review period.
- August 15-17: Revise and submit to VTDEC and US EPA
- August 17 – September 17: VTDEC and EPA review period – 30 days
- September 17 – September 24: Final Phase II ESA Report

Stone estimates the submittal of the Final Phase II ESA Report no earlier than the third week in September 2018. Soil boring and asbestos inspection are subject to subcontractor availability.

6. Cost Estimate

Costs for our proposed Scope of Services will be billed on a time-and-materials to a maximum basis; we will not exceed the proposed budget without your prior consent. A detailed cost estimate is attached. Costs are summarized by task in Table 1, as follows:

Table 1. Proposed Budget for Phase II ESA

	Task	Professional Services	Consultant	Expenses	Total
1	Task 1 - Project Management and Coordination	$1,370	$0	$77	$1,447
2	Task 2 - Quality Assurance Project Plan Preparation and Site-Specific HASP	$3,330	$0	$0	$3,330
3	Task 3 - Dig Safe Mark-out	$330	$0	$58	$388
4	Task 4 - Vapor Intrusion Assessment and Soil Gas Survey	$4,180	$1,815	$1,236	$7,231
5	Task 5 - Concrete Assessment	$70	$869	$15	$954
6	Task 6 - Soil Sampling	$1,680	$6,837	$542	$9,059
7	Task 7 - Hazardous Building Materials Survey	$100	$2,805	$0	$2,905
8	Task 8 - Data Evaluation and Reporting	$3,930	$0	$0	$3,930
	TOTAL	**$14,990**	**$12,326**	**$1,928**	**$29,244**

7. General Terms and Conditions

Our proposed Scope of Services will be performed pursuant to the Brownfields general services contract between CCRPC and Stone.

We look forward to continuing to work with you on this project. Please contact me if you have any questions.

Sincerely,

Katrina Mattice
Project Engineer
Direct Phone / 802.229.6434
E-Mail / kmattice@stone-env.com

Daniel T. Voisin
Director of Environmental Assessment & Remediation
Direct Phone / 802.229.1875
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Attachments: A – Detailed Cost Estimate, Figure 1: Site Location Map, Figure 2: Site Plan, Figure 3: Proposed Investigation Locations

CC: 314 North Winooski, LLC.

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STONE ENVIRONMENTAL INC

Phase II ESA, Champlain Transmission, 314 North Winooski Ave, Burlington, VT

17-142

DETAILED FEE & SCOPE DETAILS

#	Staff Type	Name	Rate Per Unit	Unit	Amount	Subtotal	Scope Details
1	**Task 1 - Project Management and Coordination**						Assumes one meeting with CCRPC, 314 North Winooski, LLC. and VT DEC in at the CCRPC office.
	Professional Services						
	Senior Professional 1	DTV	$ 115 / hour	4	$460		Includes scheduling field activities and updates to stakeholders.
	Project Professional 1	KJM	$ 100 / hour	8	$800		
	Accountant 2	SR	$ 55 / hour	2	$110		Includes invoicing time.
		Professional Services Summary		*14*		*$1,370*	
	External Expenses						
	Mileage - Personal Vehicle		$0.535 / mile	80	$47		
	Stone Equipment						
	EAR Water Level Indicator		$30.00 / day	1	$30.00		
		Expense Summary				*$77*	
	TASK SUBTOTAL					**$1,447**	
2	**Task 2 - Quality Assurance Project Plan Preparation and Site-Specific HASP**						Prepare a Site-Specific Quality Assurance Project Plan (SSQAPP). Assumes 1-set of revisions based on VTDEC and EPA comments.
	Professional Services						
	Senior Professional 2	KW	$ 115 / hour	4	$460		Prepare Site-Specific HASP.
	Senior Professional 1	DTV	$ 115 / hour	2	$230		
	Project Professional 1	KJM	$ 100 / hour	20	$2,000		
	Staff Professional 3	KMT	$ 80 / hour	8	$640		
		Professional Services Summary		*34*		*$3,330*	
	TASK SUBTOTAL					**$3,330**	
3	**Task 3 - Dig Safe Mark-out**						Stone will perform a site visit and dig safe mark-out. This will include coordinating with Burlington Public works department.
	Professional Services						
	Project Professional 1	KJM	$ 100 / hour	0.5	$50		
	Staff Professional 1	DTC	$ 70 / hour	4	$280		
		Professional Services Summary		*4.5*		*$330*	
	Stone Equipment						
	Tacoma Mileage		$0.54 / mile	80	$43.20		
	Stone Consumables						
	EAR General Field Sampling Consumables		$15 / day	1	$15.00		
		Expense Summary				*$58*	
	TASK SUBTOTAL					**$388**	
4	**Task 4 - Vapor Intrusion Assessment and Soil Gas Survey**						Collect sub-slab vapor samples using HVS methodology at two locations.
	Professional Services						
	Project Professional 1	KJM	$ 100 / hour	1	$100		Install temporary probes at 10 locations exterior of the building to assess possible hot spots outside the building. Collect up to 5 samples in Tedlar for analysis. Analyze all samples for VOCs (full list) by EPA Method TO-15, QA/QC duplicate.
	Staff Professional 1	DTC	$ 70 / hour	24	$1,680		
	Project Professional 1	BMD	$ 100 / hour	24	$2,400		
		Professional Services Summary		*49*		*$4,180*	
	Consultants*						VOCs in Concrete: Collect samples of off-gassing using passive flux chambers at up to 2 locations in work bays of garage using Tedlar bags. Sample chambers to be allowed to equilibrate over 24 hours. Collect 1 field duplicate at one location. Analyze for TO-15.
	TestAmerica- VOCs TO15		$150 / sample	11	$1,815		
		Consultant Summary				*$1,815*	
	External Expenses						
	Rental Helium Detector		$75 / day	1	$83		Concrete core drill will also be used to prep soil sample locations (floor drains, hydraulic lift and concrete pump island) following the vapor intrusion assessment.
	Rental-Field Equipment - Concrete Core Drill		$95 / ea	1	$105		
	Stone Equipment						
	Tacoma Mileage		$0.54 / mile	80	$43.20		
	EAR Bosch Hammer Drill		$50 / day	2	$100.00		
	EAR PID		$90 / day	1	$90.00		
	EAR Soil Gas Sampling Box and Gast Pump		$25 / day	1	$25.00		
	EAR AMS Soil Gas Sampling Kit		$100 / day	1	$100.00		
	EAR Electrical Generator - Honda Eu 2000		$50 / day	2	$100.00		
	EAR Manometer		$65 / day	1	$65.00		
	EAR TSI Velocicalc 9535 Anemometer		$35 / day	1	$35.00		
	EAR Regen Blower		$50 / day	1	$50.00		
	Stone Consumables						
	EAR 1/4" OD FEP Tubing SG		$2.16 / ea	80	$172.80		
	EAR PPE		$15.00 / day/staff	4	$60.00		
	EAR General Field Sampling Consumables		$15.00 / day	2	$30.00		
	EAR 140 cc Syringe		$9.00 / ea	2	$18.00		
	EAR Tedlar Bags (0.5 or 1.0 liter)		$14.50 / ea	11	$159.50		
		Expense Summary				*$1,236*	
	TASK SUBTOTAL					**$7,231**	
5	**Task 5 - Concrete Assessment**						Collect 2 discrete concrete samples from the locations impacted by spilled oils in the area of the two hydraulic lifts for analysis of PCBs by EPA Method 8082 with manual soxhlet extraction, QA/QC field duplicate and equipment blank.
	Professional Services						
	Staff Professional 1	DTC	$ 70 / hour	1	$70		If the slab will be removed regardless, then collect sample of concrete for waste characteristics profile determination.
		Professional Services Summary		*1*		*$70*	
	Consultants*						It is assumed that task 5 mobilization will occur with task 6.
	AMRO -PCB Soxhlet 8082		$77 / sample	3	$254		
	AMRO - PCB Wipes		$56 / sample	1	$62		
	AMRO- TPH DRO		$62 / sample	1	$68		
	AMRO - RCRA Metals		$100 / sample	1	$110		
	AMRO - VOCs		$118 / sample	1	$130		
	ARMO - SVOCs		$223 / sample	1	$245		
		Consultant Summary				*$869*	
	Stone Consumables						
	EAR General Field Sampling Consumables		$15 / day	1	$15.00		
		Expense Summary				*$15*	
	TASK SUBTOTAL					**$954**	

Phase II ESA, Champlain Transmission, 314 North Winooski Ave, Burlington, VT
17-142
DETAILED FEE & SCOPE DETAILS

#	Staff Type	Name	Rate Per Unit	Unit	Amount	Subtotal	Scope Details
6	**Task 6 - Soil Sampling**						Oversee the advancement of 6 soils borings in known areas of concern and up to 4 contingent locations.
	Professional Services						Screen excavated soil pile and peform floor drain sampling. Stone will collect a total of 8 discrete samples for analysis of VOCs and three discrete samples for analysis of SVOCs, PP 13 metals, PCBs, TPH DRO and 1 composite sample for waste characterization, QA/QC field duplicates at 5%, trip blank and one equipment blank for PCB analysis only.
	Project Professional 1	KJM	$ 100 / hour	1	$100		
	Staff Professional 3	BMD	$ 80 / hour	11	$880		
	Staff Professional 1	DTC	$ 70 / hour	10	$700		
	Professional Services Summary			*22*		*$1,680*	
	Consultants*						Assumes two staff scientists onsite, one to perform oversight of soil borings and one to screen excavated soil pile and perform floor drain sampling. It is assumed that task 5 mobilization will occur with task 6.
	Cascade- Geoprobe 7822DT		$1,705 / day	1	$1,876		
	Cascade - Mobilization		$320 / LS	1	$352		
	Cascade - Consumables		$295 / LS	1	$325		
	AMRO- VOCs 8260		$118 / sample	10	$1,296		
	AMRO- SVOCs 8270		$223 / sample	5	$1,228		
	AMRO- PP 13 Metals plus barium		$149 / sample	5	$821		
	AMRO- PCB Soxhlet 8082		$77 / sample	5	$424		
	AMRO- PCB Wipes		$56 / sample	1	$62		
	AMRO- TPH DRO		$62 / sample	5	$339		
	AMRO- Ignitability		$28 / sample	1	$30		
	AMRO- Reactivity		$55 / sample	1	$61		
	AMRO- Corrosivity		$23 / sample	1	$25		
	Consultant Summary					*$6,837*	
	External Expenses						
	Shipping/Freight		$75 / ea	1	$83		
	Stone Equipment						
	Tacoma Mileage		$0.54 / mile	80	$43.20		
	EAR PID		$90 / day	1	$99.00		
	GDS Trimble GEO 7X GPS		$125 / day	1	$137.50		
	EAR AMS Mini Soil Coring System		$100 / day	1	$110.00		
	EAR Samsung Field Tablet		$50 / Day	1	$55.00		
	Stone Consumables						
	EAR PPE		$15 / day/staff	1	$15.00		
	Expense Summary					*$542*	
	TASK SUBTOTAL					**$9,059**	
7	**Task 7 - Hazardous Building Materials Survey**						Clay Point Associates to perform hazardous building materials survey. Assumes 40 bulk samples for asbestos and sampling suspected asbestos roofing. Clay point attemps to patch roof pentations but do not guarantee integrity of work. A roofing subcontractor to patch all penetrations would be an additional $800.
	Professional Services						
	Project Professional 1		$ 100 / hour	1	$100		
	Professional Services Summary			*1*		*$100*	
	Consultants*						Assumes lead-based paint inspection with XRF.
	Clay Point Associates- Asbestos		$1,100 / ls	1	$1,210		
	Clay Point Associates- Lead		$650 / ls	1	$715		
	Roofing Subcontractor		$800 / ls	1	$880		
	Consultant Summary			*3*		*$2,805*	
	TASK SUBTOTAL					**$2,905**	
8	**Task 8 - Data Evaluation and Reporting**						Prepare a Phase II Environmental Site Assessment Report. Provide a draft report to CCRPC and 314 North Winooski Ave, LLC for review and comment. Assumes 1 set of revisions, followed by submittal of the final report to VTDEC and EPA.
	Professional Services						
	Senior Professional 1	DTV	$ 115 / hour	2	$230		
	Project Professional 1	KJM	$ 100 / hour	20	$2,000		
	Staff Professional 3	KMT	$ 80 / hour	16	$1,280		
	Staff Professional 1	DTC	$ 70 / hour	6	$420		Figures to be prepared by a Stone GIS/CAD Specialist and will include: 1) Revised Site Map 2) Soil concencentration map. 3) Soil gas concentration map. 4) Cross Sections (2)
	Professional Services Summary			*44*		*$3,930*	
	TASK SUBTOTAL					**$3,930**	
	PROJECT TOTAL					***$29,244***	

Stone Environmental's standard mark-up on all Consultant and reimbursable project expenses is 10%.

LEGEND

Target Property Boundary

N

0 250 500

Feet

Source: Esri World Topography

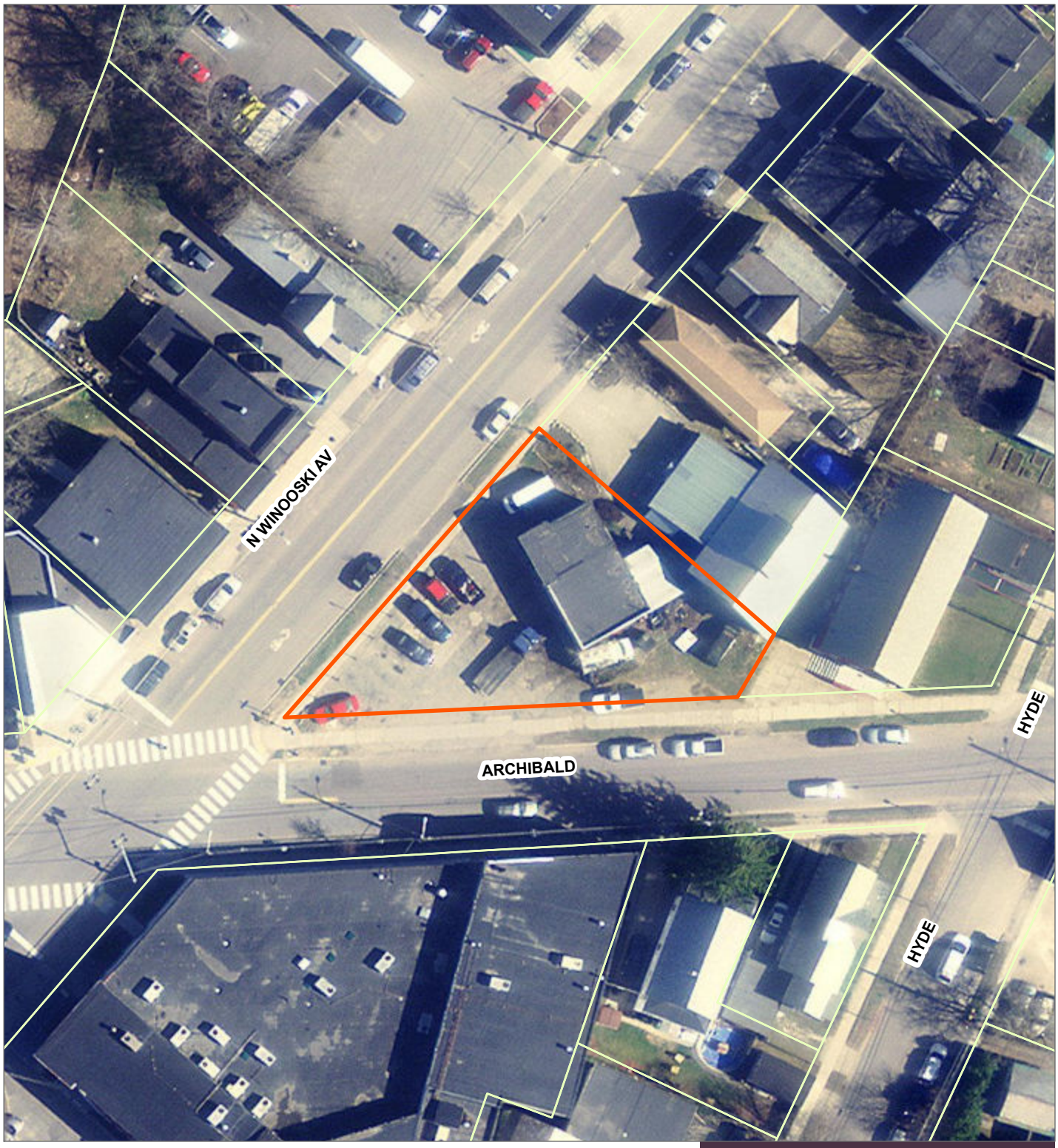
Path: O:\Proj-17\EAR\17-142 314 North Winooski Ave Phase I\GIS\MapDocuments\17-142 314 North Winooski Ave\17-142 314 North Winooski Ave.aprx Figure 1 Site LocationExported: 4/25/2018 2:20

Figure 1 Site Location

314 N. Winooski Ave. Phase II ESA

Prepared for CCRPC & 314 N. Winooski, LLC

STONE ENVIRONMENTAL



LEGEND

- Target Property Boundary
- Burlington Parcel Boundaries

N 0 25 Feet

Vermont

Source: Esri World Topography, VCGI

Path: O:\Proj-17\EAR\17-142 314 North Winooski Ave Phase I\GIS\MapDocuments\17-142 314 North Winooski Ave\17-142 314 North Winooski Ave.aprx Figure 2 Site PlanExported: 4/25/2018 2:21 PM

Figure 2 Site Plan

314 N. winooski Ave. Phase II ESA

Prepared for CCRPC & 314 North Winooski, LLC

STONE ENVIRONMENTAL

LEGEND

- Target Property Boundary
- Fence

Proposed Sample Locations

- Vapor Dome
- Concrete
- Soil Boring
- Soil Gas
- Extraction Well

N

0 5 10

Feet

Source: Esri World Topography, VCGI

Path: O:\Proj-17\EAR\17-142 314 North Winooski Ave Phase I\GIS\MapDocuments\17-142 314 North Winooski Ave\17-142 314 North Winooski Ave.aprx Figure 3 Proposed Sample LocationsExported:

Figure 3 Proposed Investigation Locations

314 N. Winooski Ave. Phase II ESA

Prepared for CCRPC & 314 North Winooski, LLC

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