



January 15, 2014

Project #: 2270-1101

Via Email: ilambrecht@franzenvironmental.com

Attention: Ingolf Lambrecht, M.Sc., P.Geo.
CSAP Standards Assessment Specialist

**RE: Performance Verification Plan for:
8920 Fraserton Court, Burnaby (PID : 018-026-826, Site 13361)
8978 Fraserton Court, Burnaby (PID : 018-026-834, Site 15866)**

Franz Environmental Inc. (FRANZ), has prepared this Performance Verification Plan (PVP) to meet the requirements of a risk-based Certificate of Compliance (CoC) for the above referenced sites, on behalf of for 3840 Investments Limited. The risk management measures in this PVP are Type 2 risk-based remediation sites.

This PVP is based on the assumption that the current site conditions do not change, specifically, that the site and impacted area are paved and all buildings are constructed slab-on-grade without basements.

1.0 BACKGROUND

An application for a risk-based CofC has been submitted with a Protocol 13 Screening Level Risk Assessment (SLRA) for the site. The SLRA shows that there are no exposure pathways to contamination in soil and groundwater for the human, terrestrial, and aquatic receptors.

Soil vapour is addressed using Technical Guidance 4 – Vapour Investigation and Remediation (TG4). Vapour has been shown to be compliant for commercial land use to the indoor and outdoor receptors on site. This was done using vapour attenuation factors from TG4 for indoor receptors and outdoor ambient air for outdoor receptors.

The intent of this PVP is to verify the long term groundwater and soil vapour concentrations over time and to describe the risk management measures to be conducted as part of any on site trench work.

2.0 MONITORING PLAN

Groundwater Monitoring- The groundwater monitoring plan will verify if the risk assessment assumptions have changed significantly. Specifically, groundwater conditions will be monitored to confirm that the plume is not changing significantly and is not migrating to the Fraser River. Groundwater samples will be collected and analyzed from MW 7, MW18, MW19, MW22, MW 23, and MW 25 for tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, vinyl chloride every 6 months for two years (see Figure 1 for sampling locations).

Analytical results will be compared to the CSR Schedule 6 Aquatic life Marine Standards.

The results and any recommended actions based on the sampling data will be included in the annual monitoring report submitted to the Ministry of Environment (MOE). After two years of monitoring, the data will be reviewed to determine if the contamination/groundwater plume is stable and the need for continued monitoring.

Soil Vapour- The proposed soil vapour monitoring plan will ensure that the assumptions of the risk assessment have not changed significantly. Specifically, vapour monitoring/sampling will be completed at the following locations: DL13-06, DL13-07, DL13-08, SV13, SV14 and SV15 (See Figure 1). The wells will be tested on the following schedule:

1. Prior to start-up of the soil vapour extraction system
2. Once every 3 months until high risk conditions are removed
3. Once every six months after high risk conditions are removed

Laboratory analysis results will be compared to the CSR Commercial Use (CL) Vapour Standards (Schedule 11) following MOE Technical Guidance 4. Remediation to numerical standards is considered to be achieved on the affected parcel when soil vapour sampling data indicates compliance with CSR Commercial Standards for trichloroethylene for a period of one year.

The results and any recommended actions based on the sampling data will be included in the annual monitoring report submitted to the MOE.

3.0 TRENCH WORKER EXPOSURE

Contamination remains in place in soil and groundwater under asphalt or concrete slab floors of current buildings. The RA indicates there may be unacceptable exposure to trichloroethylene in a trench at the Site. The site owner/operator is required to ensure that the potential exposure of workers

involved in excavations and/or trench work is managed. Additionally, there is a requirement for communication and/or notification of the requirement for a health and safety plan to be developed prior to subsurface work. The plan is intended to result in compliance with WorkSafeBC Occupational Health and Safety Regulations and could include:

- Monitoring of trichloroethylene vapour concentrations within exposure cavities and trenches to verify the need for additional or ongoing monitoring;
- Comparison of trichloroethylene vapour concentrations to WorkSafeBC exposure limits for trichloroethylene. These limits are considered maximum safe vapour exposure concentrations for workers. If vapour concentrations exceed these limits, additional measures should be taken (see next bullet);
- If needed, measures should be undertaken (e.g. trench venting or personal protection equipment such as respirators) to manage potential exposure to vapours;
- Requirements for minimum PPE (gloves, long sleeved clothing, pants and safety boots)
- Good workplace hygiene and/or decontamination procedures;
- Procedures to manage groundwater entering any excavation (e.g. dewatering as is standard industry practice)

4. REPORTING

Annual monitoring reports will be submitted to MOE. Any recommendations based on the data will be presented in the annual report.

5. CLOSURE

We trust that the foregoing meets the requirements for the PVP.



Michael Shum, Ph.D., P.Ag., R.P.Bio.
Senior Environmental Scientist

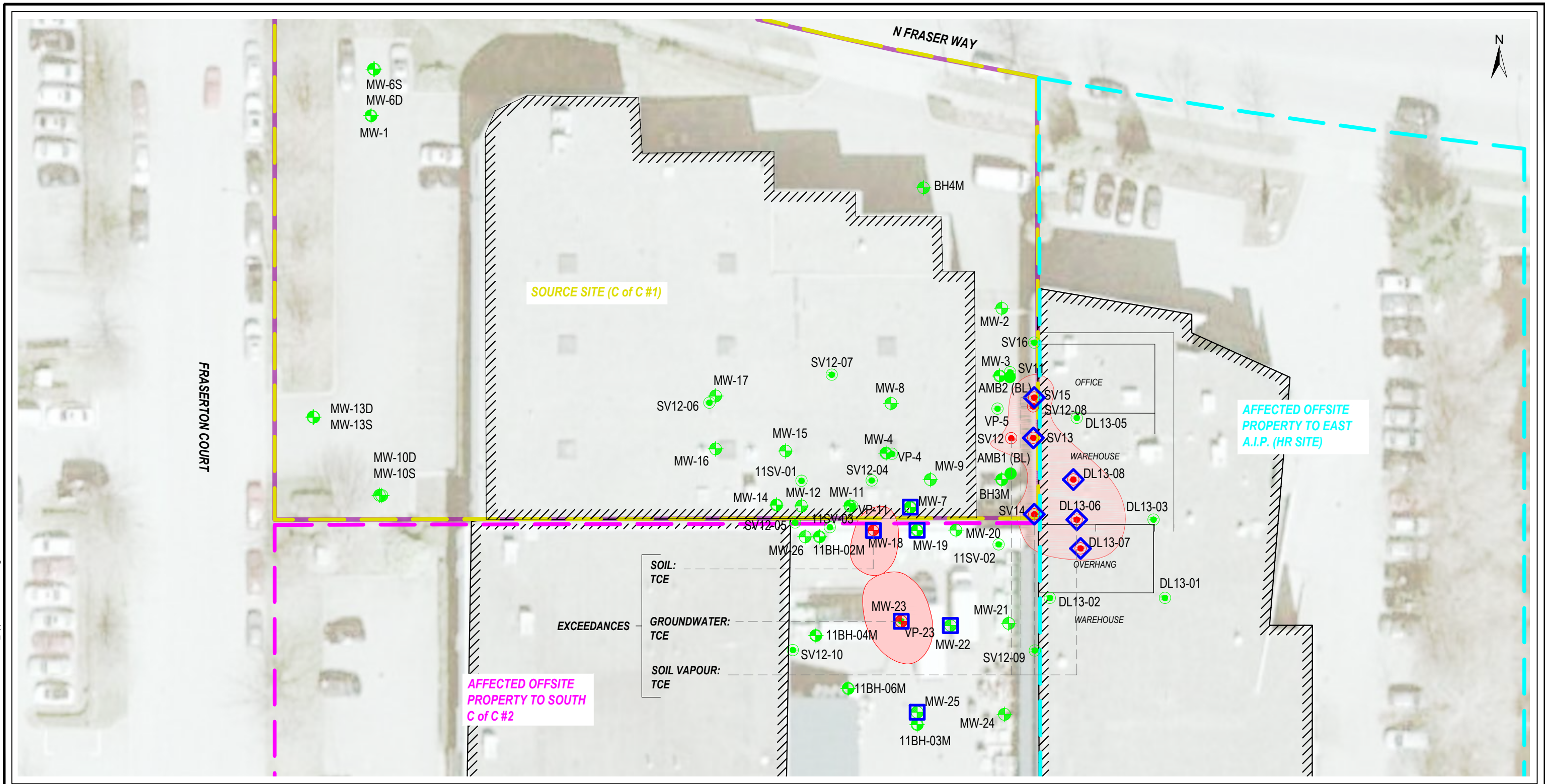
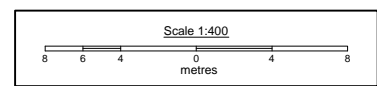


Figure 1 (7) Z:\WORK\Projects\2270-1101 - FrasertonCourt-CofC_App\CAD\DS\DS1.dwg

- LEGEND**
- Site Boundary
 - Area to be Included in Certificate of Compliance #1
 - Area to be Included in Certificate of Compliance #2
 - Area to be Included in Approval in Principal (A.I.P.)
 - Existing Building
 - Monitoring Well
 - Soil Vapour Well
 - Ambient Air Sample
 - Proposed Groundwater Monitoring Location
 - Proposed Soil Vapour Monitoring Location
 - Contamination Plume

- EXCEEDANCES**
- SOIL: TCE
 - GROUNDWATER: TCE
 - SOIL VAPOUR: TCE

- Concentration of TCE Below the Applicable BC CSR CL and/or AW Standard
- Concentration of TCE Exceed the Applicable BC CSR CL and/or AW Standard



Title:	PERFORMANCE VERIFICATION PLAN: SAMPLING LOCATIONS
Project:	8920 FRASERTON COURT AND 8978 FRASERTON COURT, BURNABY, BC
Client:	BLACK AND LEE TUXEDOS
Date:	JANUARY 2014
FIGURE 1	

