WORK PLAN
1746 DALE ROAD SITE
SUBSLAB SOIL VAPOR EXTRACTION SYSTEM
JANUARY 2015

BACKGROUND

The property at 1746 Dale Road in Cheektowaga, NY, was previously owned by Roco Ltd., and was the subject of a site investigation/remedial action by Roco, Ltd. dating back to 2000. Subsurface volatile organic (VOC) contamination has been associated with the use of trichloroethylene (TCE) dating back to the 1950s. Site investigations revealed contamination beneath the old metal prep room in the northwest corner of the 33,000-sf single story building, with trichloroethylene (TCE) levels as high as 153,000 ppb in groundwater well GW-3.

Roco LTD entered into the Voluntary Cleanup Program (VCP) in 2002 and, following site investigations, implemented an in-situ bioremediation system to treat groundwater. The treatment consisted of the injection of a hydrogen release compound from 2005 through 2009. Over this period, site reports show TCE reductions in GW-3 down to 10 ppb, and total VOCs to 138 ppb. The site was abandoned in 2009 immediately after the submittal of a Site Management Plan by Roco Ltd., and turned over to the NYSDEC.

Dale Anderson LLC purchased the property in an auction in early 2014, and held discussions with the NYSDEC regarding measures to investigate current environmental conditions and to explore options for remediation of residual contamination at the site. Since the VCP remediation system and associated groundwater monitoring was terminated by Roco Ltd. a few years ago, the current owners retained IEG to take the first step of characterizing groundwater contamination in and around the northwest corner of the property, and to develop the course of further action.

GROUNDWATER SAMPLING AND ANALYSIS

Seven monitoring wells are found at the site from the VCP activities. Six wells (excluding GW-6) were purged and sampled in August 2014 for VOCs. At the same time, a subslab soil vapor sample (designated SV-01) was collected inside the northwest corner of the building next to monitoring well GW-3. TCE is the source compound at this site, while DCE and VC are degradation products associated with in-situ bioremediation of groundwater from 2003 to 2009.

VOCs in groundwater: Up to eight VOCs were found in the six wells sampled, with GW-3 having the highest levels. GW-3 had 61,219 µg/L total VOCs, while the other five wells ranged from 5.4 to 572 µg/L. Trichloroethene (TCE) ranged from non-detect in GW-7 to 10 µg/L at GW-3. Two VOCs, cis-1,2-dichloroethene (DCE) and vinyl chloride (VC), were the highest at 34,000 and 27,000 µg/L respectively in GW-3.

VOCs in sublab soil vapor: Six VOCs were detected in the subslab soil vapor sample, ranging from 210 µg/m^3 toluene to 2,300 µg/m^3 cis-1,2-dichloroethene and 190,000 µg/m^3 TCE, significantly above the 250 µg/m^3 NYSDOH guideline.

ASSESSMENT

Over a decade has passed since the groundwater bioremediation system was implemented and five years since the remediation was abandoned. DCE and VC, the degradation products, appear to have rebounded from the low levels reported in 2009. Over this period, the subslab soil vapor also seems to have accumulated significant levels of TCE, far exceeding previously reported levels. Contaminant levels at the source warrant further action to protect building occupants as well as prevent further migration of contaminants. The areas outside the building are at significantly lower levels and don't appear to warrant immediate action. Given this scenario, a phased course of action, beginning with a subslab soil vapor extraction system to target the source area beneath the slab, followed by soil excavation or groundwater pump and treat system, would be appropriate. This would most likely be the fastest way to achieve the previously established remedial action objectives.

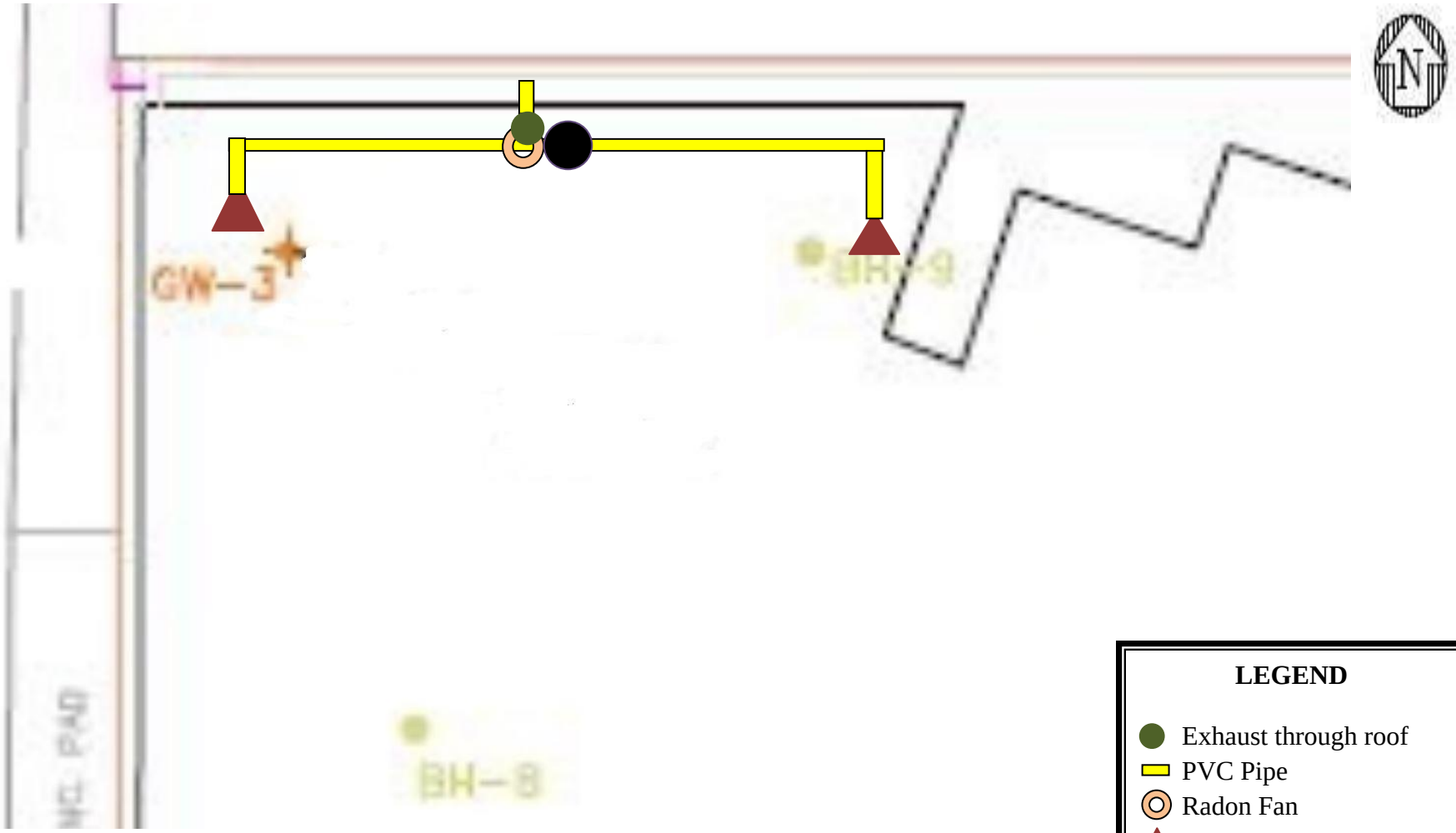
PROPOSED COURSE OF ACTION

Following discussions with the NYSDEC in November, the current property owners directed IEG to procure and implement a subslab vapor extraction system (SVES), while pursuing an agreement with the NYDEC to address on-site contamination.

The SVES will consist of two (2) soil vapor extraction points, one of which will be located near the northwest corner of the building near GW-3 (as shown on Figure 1). The other extraction point will be located near borehole BH-9 from the 2006 sampling event (inside the same room). Holes will be cored through the concrete floor to fit a 4" PVC pipe (Sched. 40) and the area below them will be cleared to allow sufficient void space (~ 5 gallon each) for the fan to draw on.

Two (2) collection pipes (3" dia) from the extraction points will be joined together inside the Northwest Room and share an electric vacuum to draw the vapors. The vapors would be exhausted through the roof near the northwest corner or the north wall (whichever is most efficient). Each extraction point will have a flow control valve, and the combined feed pipe to the fan will have a flow manometer (as shown on Figure 2).

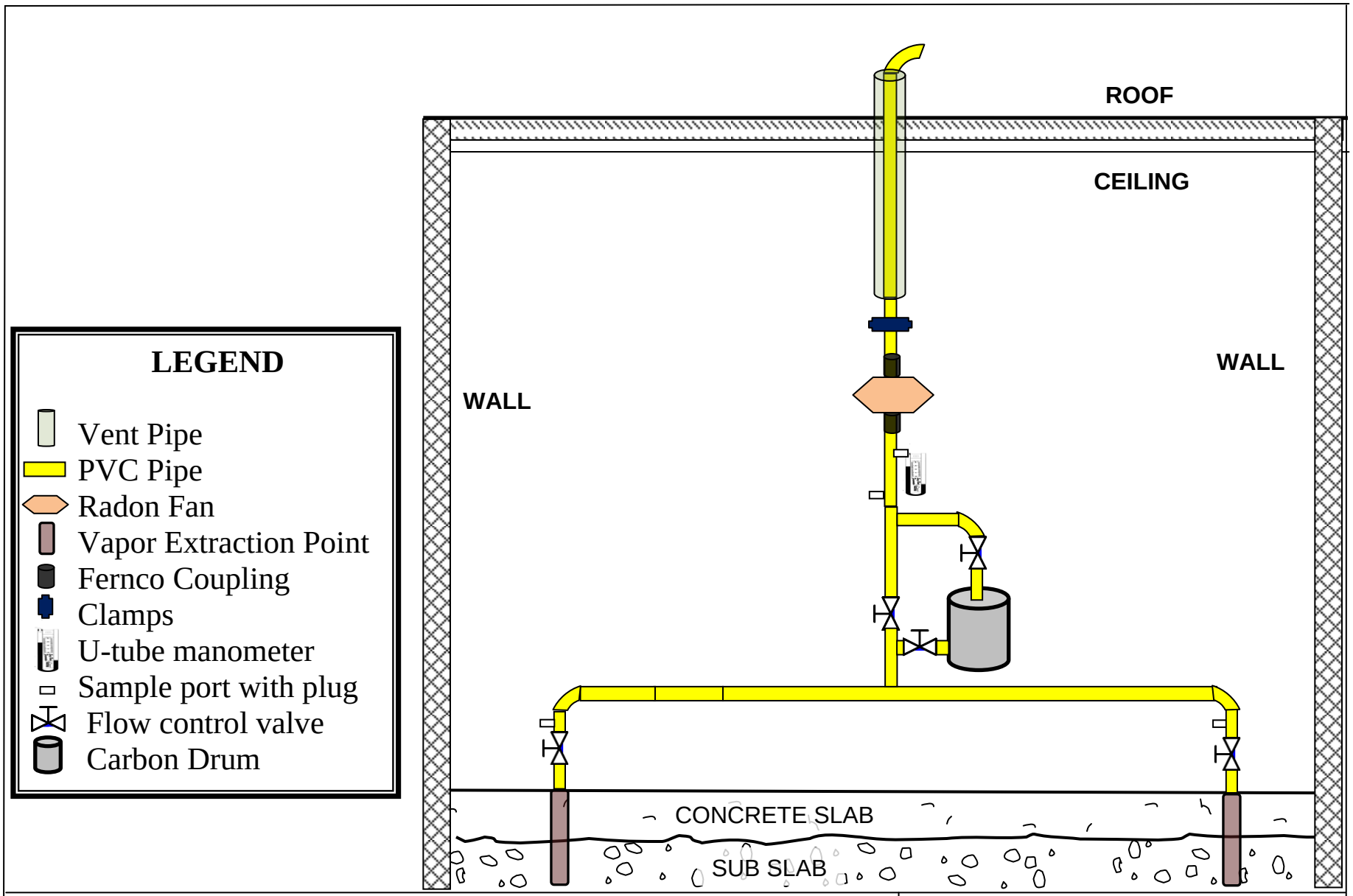
The SVES will be operated for at least a year as a first step to mitigating VOC levels below the floor in the northwest corner of the building where GW-3 is located. Initially, a vapor phase carbon drum will be used to treat the soil vapor before discharge to the atmosphere. The carbon drum will be discontinued once the VOC levels drop below allowable discharge limits.



1746 Dale Road Site
SVE SYSTEM LAYOUT

FIGURE 1

IEG



1746 Dale Road Site
SVE SYSTEM SCHEMATIC

FIGURE 2

IEG