

February 16, 2012

Project Reference # 10837

Ms. Pam Mylotta
Wisconsin Department of Natural Resources
2300 North Martin Luther King Jr. Drive
Milwaukee, Wisconsin 53212

RE: Drycleaner Emergency Response Program (DERF) Work Plan
One Hour Fabricare
4704 West Burleigh Street
Milwaukee, Wisconsin

Dear Ms. Mylotta,

Sigma Environmental Services, Inc. (Sigma) on behalf of McKplaco Inc. (property owner) has prepared this Drycleaner Emergency Response Program (DERF) work plan for Wisconsin Department of Natural Resources (WDNR) approval of the site investigation activities proposed for the One Hour Fabricare property located at 4704 West Burleigh Street in Milwaukee, Wisconsin (hereinafter "the site"). This work plan was prepared in response to your December 2, 2010 letter requesting additional investigation activities.

Previous Site Investigations

The presence of a release from the dry cleaning operations was identified in 2006. The preliminary investigation identified chlorinated related volatile organic compounds (CVOCs) typical of dry cleaning operations within the soil beneath the building and in groundwater adjacent to the site building.

Based on the results, a release was reported to the Wisconsin Department of Natural Resources (WDNR) on December 7, 2006 and subsequently McKplaco was named the responsible party. McKplaco applied for and was granted eligibility to enter the DERF program in January 2008.

Additional investigation activities completed between 2009 and 2010 have included the advancement of eight Geoprobe soil borings (GP-1 through GP-8), the sampling of four temporary groundwater monitoring wells (TW-1 through TW-4), the installation of 5 ch. NR 141 groundwater monitoring wells (MW-1 through MW-5), well network sampling and the collection of one sub-slab vapor sample.

The site investigation results indicate that chlorinated-related soil impacts appear greatest within shallows soils beneath and immediately surrounding the site building. Chlorinated soil impacts were also identified to extend south and northeast from the building. Similarly, groundwater impacts are greatest immediately adjacent to the site building and to a lesser degree toward the north northeast and south west.

Petroleum-related soil impacts, specifically benzene and ethylbenzene, were reported at concentrations greater than the Chapter NR 720 residual contaminant levels (RCLs) within the soil sample collected from a soil boring located on the eastern portion of the

site. Gasoline-related constituents were not identified at concentrations greater than the laboratory detection limits within the groundwater samples collected from the temporary and Chapter NR 141 monitoring wells at the site. From the 1940's to 1965 the site was historically operated as a gasoline service station. According to the property owner, the gasoline underground storage tanks (USTs) associated with the gasoline service station have been removed from the site. Based on the site history, the petroleum-related soil impacts identified in the eastern portion of the site may be associated with the historic gasoline station operations.

The sub slab vapor sampling completed in August 2010 detected PCE and TCE at concentrations greater than the calculated sub-slab air standard. The building is currently vacant and the owner proposes to sell the property for commercial use. The proposed investigation will further evaluate soil and groundwater quality beneath and immediately adjacent to the structure and an evaluation of further assessment will be completed following receipt of the analytical results.

Geology

Soil observed during the soil boring advancement consisted of a silt, sandy silt, and silty sand. At two locations the silt/silty sand interval is interrupted with a 3 foot clay layer present between approximately 0.5 and 6.5 feet bgs. Wet to saturated soil conditions were generally observed at depths ranging from three to six feet bgs.

Hydrogeology

Groundwater is shallow at the site with groundwater generally present at depths less than 4 feet bgs. The groundwater flow direction is to the east southeast

SCOPE OF WORK

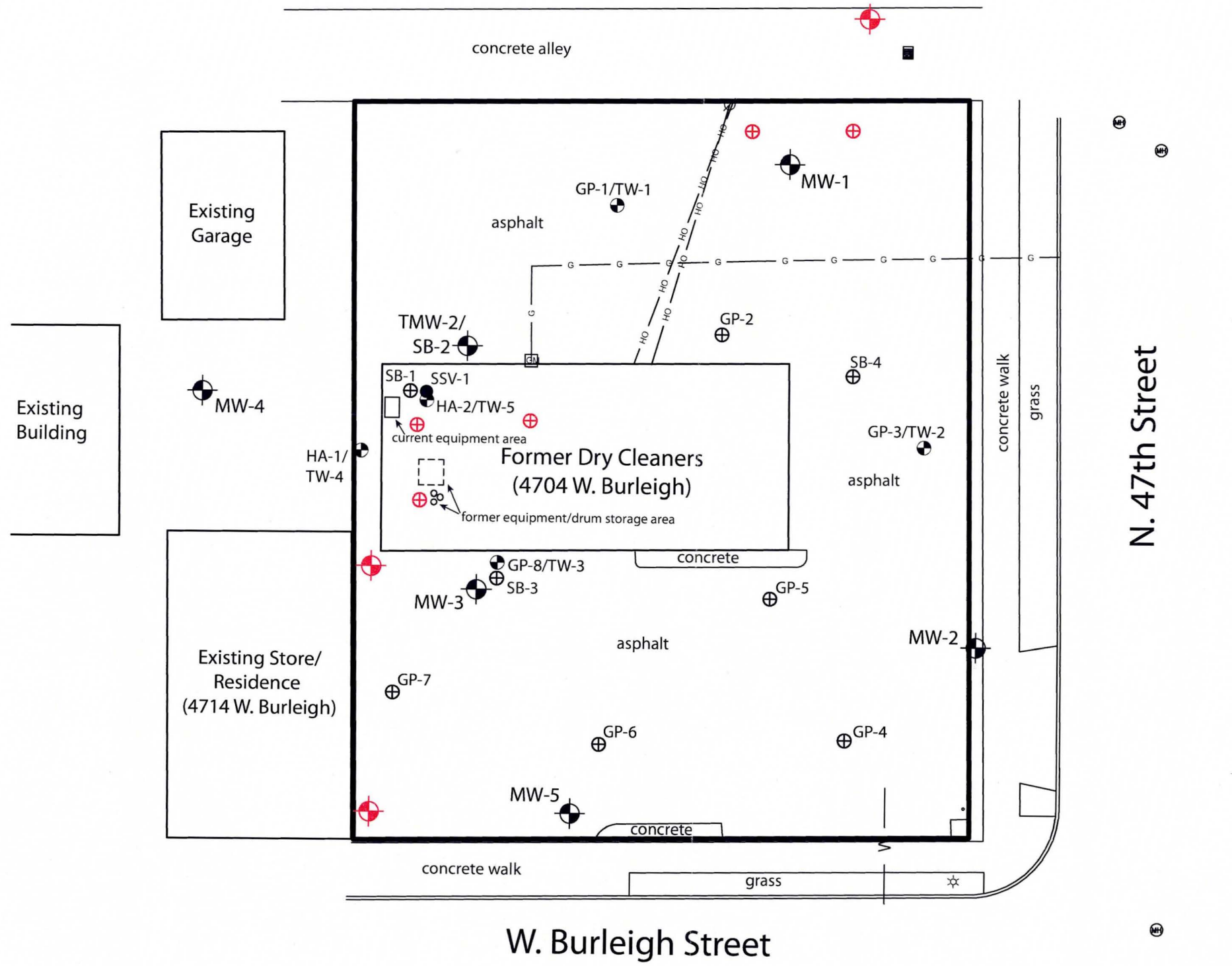
Based on the results of the completed investigation activities the WDNR has requested further evaluation to define the degree and extent of impacts to soil and groundwater as well as to evaluate potential risks to off-site properties. The specific WDNR request and the proposed scope of work is as follows:

- *Define the extent and degree of soil and groundwater contamination north and northeast of the building beyond TW-1 and MW-1.*

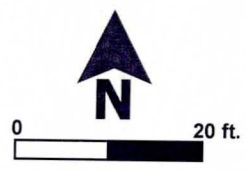
Sigma proposes the advancement of two soil borings and installation of one ch. NR 141 compliant groundwater monitoring well at the locations shown on the attached Figure 1. The soil borings will be advanced to approximately 10 feet bgs along the property boundary northwest and northeast of monitoring well MW-1. The monitoring well will be completed, to a depth of approximately 14 feet bgs, at the north side of the alley which borders the property to the north. Given that the monitoring well will be installed within the City of Milwaukee right-of-way, Sigma will request access from the City of Milwaukee prior to the well installation.

Soil samples collected from each of these locations will be screened in the field for the presence of volatile vapors. One soil sample from each soil boring; the sample exhibiting the highest screening level or the sample collected from the saturated and unsaturated interface will be submitted to the project laboratory for VOC analysis.

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LEGEND	
	Terracon Soil Boring
	Sigma Geoprobe Soil Boring
	Proposed Soil Boring
	Sigma Temporary Well
	Monitoring Well
	Proposed Monitoring Well
	Underground Gas Line
	Underground Water Line
	Overhead Electric Line
	Site Property Boundary



	PROPOSED SOIL BORING/WELL LOCATION MAP	FIGURE
	McKplaco, Inc./One Hour Fabricare Cleaners 4704 W. Burleigh, Milwaukee, Wisconsin	1

The groundwater monitoring well will be developed and sampled in accordance with ch. NR 141. The groundwater sample will be submitted to the project laboratory for VOC analysis.

- *Collect soil and groundwater samples immediately adjacent to 4714 W. Burleigh building, just off the southwest corner of the dry cleaner building.*

Sigma proposes that one ch. NR 141 compliant groundwater monitoring well be installed (to a depth of approximately 14 feet bgs) at the southwest corner of the existing building at the approximate location shown on **Figure 1**. During installation soil samples will be continuously collected and screened in the field for volatile vapors. One soil sample; that sample exhibiting the highest screening level will be submitted to the project laboratory.

Upon completion this monitoring well will be developed and sampled in accordance with ch. NR 141. The groundwater sample collected from this monitoring well will be submitted to the project laboratory for VOC analysis.

- *Collect soil and groundwater samples in the southwest corner of the dry cleaner property.*

Sigma proposes that one ch. NR 141 compliant groundwater monitoring well be installed (to a depth of approximately 14 feet bgs) at the southwest corner of the property at the approximately location shown on **Figure 1**. During installation soil samples will be continuously collected and screened in the field for volatile vapors. One soil sample; that sample exhibiting the highest screening level will be submitted to the project laboratory.

Upon completion this monitoring well will be developed and sampled in accordance with ch. NR 141. The groundwater sample collected from this monitoring well will be submitted to the project laboratory for VOC analysis.

- *Collect soil samples, if possible, from beneath the dry cleaner building, to define the area of highest soil concentrations.*

Up to 3 hand auger soil borings will be completed to a depth of approximately 5 feet bgs within the western ½ of the building footprint. The approximate locations of the soil borings are shown on **Figure 1**. The soil borings will be advanced within and/or immediately adjacent to areas of previous material management and to the east to further define the extent of impact.

The soil borings will be advanced by first coring through the concrete slab and advancing via a power auger to the maximum depth possible. Soil samples will be continuously collected and screened in the field for volatile vapors. One soil sample per boring; that exhibiting the highest screening level, will be submitted to the project laboratory for VOC analysis.

Upon completion of the soil borings and soil sample collection, the soil borings will be abandoned in accordance with ch. NR 141 and the concrete floor patched.

- *Assess the vapor risk to the building west of the dry cleaner property, at 4714 W. Burleigh. Identify the condition of floor/walls of basement (assuming there is a basement), locate any basement sumps and sump water sample. Include contingency cost to collect indoor air sample(s).*

The owners of the existing store/residence will be contacted and site access will be requested to evaluate the potential for vapors within the structure. Sigma will interview the property owner to 1 – determine if a basement is present within the structure, 2- if present, determine the potential existence and location of a sump, 3 – discuss the integrity of the current floor and wall systems.

Pending access and presence of a basement, Sigma will complete a visual assessment of the current basement conditions including potential cracks and/or penetrations within the floor and walls. In addition, an inventory of potential chemicals and/or other volatile organic containing materials present within the basement will be completed.

Pending the conditions assessment findings, a sampling plan (i.e. location of potential vapor sampling points) will be developed. In addition, the sump if present will be sampled. The water sample collected from the sump will be submitted to the project laboratory for VOC analysis.

For purposes of this work plan it is assumed that 3 sub-slab vapor samples will be collected. The vapor samples will be collected in accordance with the WDNR's December 2010 "Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin" guidance document.

- *Include contingency costs to assess the vapor risk to the residence immediately north of the dry cleaner property.*

Sigma will, if determined necessary, contact the owners of the residence and request site access to evaluate the potential for vapors within the structure north of the site (across the alley). Sigma will interview the property owner to 1 – determine if a basement is present within the structure, 2- if present, determine the potential existence and location of a sump, 3 – discuss the integrity of the current floor and wall systems.

Pending access and presence of a basement, Sigma will complete a visual assessment of the current basement conditions including potential cracks and/or penetrations within the floor and walls. In addition, an inventory of potential chemicals and/or other volatile organic containing materials present within the basement will be completed.

Pending the conditions assessment findings, a sampling plan (i.e. location of potential vapor sampling points) will be developed. In addition, the sump if

present will be sampled. The water sample collected from the sump will be submitted to the project laboratory for VOC analysis.

For purposes of this work plan it is assumed that 3 sub-slab vapor samples will be collected. The vapor samples will be collected in accordance with the WDNR's December 2010 "Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin" guidance document.

- *Evaluate the potential for vapor migration east of the property.*

Sigma will complete a review of the existing subsurface utilities servicing the property. This review will include spatially locating the utility corridors and connections, the estimated depth of each utility and an evaluation of these utilities to known areas of impact. The utility locations will be provided on a site figure and pertinent information relative to the potential for contaminant migration will be presented and discussed.

In addition to the above referenced activities, Sigma will also collect one round of groundwater sampling from the existing well network to evaluate current site wide groundwater quality conditions. A professional survey of the above referenced wells locations and subsurface utility locations will also be conducted.

Cost Estimate

The cost associated with the above referenced activities is approximately \$21,234. A detailed cost estimate is included as **Attachment 1** for your review and approval.


Sigma is prepared to begin phasing the work upon authorization to proceed. Please note that the initial activities will include the completion of utility assessments and an evaluation of the adjoining property to the west.

If you have any questions during your review of the proposed site investigation activities and associated costs or if you need additional information please call us at 414-643-4200.

Sincerely,

SIGMA ENVIRONMENTAL SERVICES, INC.


Mary Trotta
Project Scientist


Kristin Kurzka, P.E.
Senior Engineer

attachments