REMEDIAL INVESTIGATION WORK PLAN

BROWNFIELD CLEANUP PROGRAM (BCP)
NYSDEC Site ID C828124
185 Mount Hope Avenue
(Tower Property)
ROCHESTER, NEW YORK

Prepared For: Conifer Hamilton, LLC
183 East Main Street, 6th Floor
Rochester, New York 14604

Prepared By: Day Environmental, Inc.
40 Commercial Street
Rochester, New York 14614

Project No.: 3501S-04

Date: August 2004

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

The subject property (Site) consists of an apartment building located on approximately 1.106 acres of land. The property is addressed as: 185 Mount Hope Avenue, City of Rochester, County of Monroe, New York. Copies of a project locus map (Figure 1) and a Site Plan (Figure 2) are included in Appendix A. The Site is located in a mixed-use urban area. Commercial and residential properties bound the Site to the north and east, residential properties to the south, and the Genesee Gateway Park and the Genesee River bound the Site to the west.

The apartment building, housing 202 units totaling approximately 143,000 square feet, consists of a multi-level eight to twelve-story brick and concrete-block, slab-on-grade building constructed in 1975. The units primarily are one bedroom and studio apartments. Prior to the residential development in 1975, past uses of the Site included commercial, warehouse, feeder canal, and rail yards.

The Site is located in an urban area that is serviced by public water system. The Monroe County Department of Health (MCDOH) has no records of public or private drinking water wells or process water wells within a 0.25-mile radius of the Site. A review of The Ground Water Resources of Monroe County document (1935) revealed no groundwater supply wells on or in the immediate area of the Site.

The Site and surrounding area are generally level. The Genesee River is located approximately 130 feet west of the site. Surface water appears to flow off the Site toward Mount Hope Avenue to the east, and into the City of Rochester sewer system. Based upon previous investigations at the Site, groundwater appears to flow to the east away from the Genesee River. This flow direction may be modified locally due to buried utilities, seasonal conditions, or other factors.

Conifer Hamilton, LLC (Applicant), submitted an application to the New York State Department of Environmental Conservation (NYSDEC) for conducting environmental studies and cleanup at the Site under the New York State Brownfield Cleanup Program (BCP). The NYSDEC documents titled "*DER Draft Brownfield Cleanup Program Guide* (May 2004) and D*raft DER-10 Technical Guidance for Site Investigation and Remediation* (December 2002) were used to assist in the development of this work plan. The purpose of this Remedial Investigation is to evaluate environmental conditions at the Site and identify areas requiring remediation, any corrective and/or control actions so that the Site can be redeveloped.

1.1 Previous Environmental Studies

To date, DAY has performed various studies on properties that include the Site. The reports completed include the following:

- *Phase I Environmental Site Assessment Report; 151 to 435 Mt. Hope Avenue and 562 Ford Street; Rochester; New York*; dated October 24, 2000 (DAY File #2307E-00)
- *Phase II Environmental Study Data Package; 151-435 Mount Hope Avenue and 562 Ford Street Rochester; New York,* dated October, 2000 (DAY File #2395S-00)

- *Phase II Environmental Study Data Evaluation Report; 151, 171, 173, 175, 177, 191, 425 and 435 Mount Hope Avenue, and 562 Ford Street Rochester; New York;* dated February, 2002 (DAY File #2506S-00). [Note: This report does not include the Site, but the findings of the investigation may directly impact the Site.]

URS Corporation (URS) also completed an environmental study on property that included the Site. The report for the URS study is titled; *Phase II Environmental Site Assessment Report; River View Commons Apartments 185-425 Mount Hope Avenue; Rochester; New York*, dated June 2003.

Aspects of these previous environmental studies that involve the Site are summarized below, and further details are discussed in the actual reports referenced.

DAY Phase I ESA Report

Day Environmental, Inc. (DAY) completed a Phase I Environmental Site Assessment (Phase I ESA) report dated October 24, 2000 for the Site in general accordance with American Society for Testing and Materials (ASTM) Practice E 1527-00. A copy of this Phase I ESA report was provided in the BCP Application. Information obtained from the Phase I ESA indicates that the building on the Site is currently heated with electric baseboard, and water is currently heated with natural gas. In addition, the Site buildings were connected to the public sewer and water systems at the time they were constructed.

The Phase I ESA identified the following recognized environmental conditions (RECs) at the Site:

1. **Asbestos-Containing Material (ACM):** ACM was observed to be in unbroken and/or non-friable condition at the time of the Phase I ESA site visit. [Note: Asbestos-containing materials (ACM) is not addressed as part of this work plan.]

2. **Historic Use of the Site:** Former uses at the Site include: rail yards, former Erie Canal feeder, and possibly a portion of a gasoline station. A review of historical Sanborn Maps suggests gasoline tanks associated with the former gasoline station may be present on the Site (refer to Figure 2).

   Additional information regarding past occupants of the Site is provided below:

   - Between 1892 and 1974, prior to the construction of the high-rise apartment building in 1975, the western portion of the Site was improved with a railroad yard and an Erie Canal feeder.
   - At the time of the Phase I ESA site visit; the landlord of the apartment building was River Park Commons.

3. **Historic Use of Adjoining Properties:** Historic uses of adjoining properties include: gasoline stations to the north and possibly east of the Site, east of Mt. Hope Avenue; former railroad infrastructure to the west of the Site; and a former Erie Canal feeder, a rail yard, a tannery, iron cutting, and auto repair to the south of the Site.

DAY Phase II Environmental Study Data Package

During the Phase II environmental study conducted during August and September 2000 and summarized in this report dated October 2000, two test borings (TB-7 and TB-27) and a groundwater monitoring well (MW-3) were advanced on the Site. The test boring and groundwater monitoring well locations are depicted on Figure 2. Test boring TB-7 (located in the northeast portion of the Site), was advanced to a completion depth of 19.3 feet below ground surface (bgs). Strong petroleum odors and a maximum photoionization detector (PID) reading of 493 ppm on a soil sample from 10 feet bgs were detected at TB-7. Test boring TB-27 (located in the east-central portion of the Site) was advanced to a completion depth of 14.5 feet bgs. Strong petroleum odors and a maximum PID reading of 1,329 ppm on a soil sample from 10 feet bgs were detected at TB-27. Groundwater monitoring well MW-3 is located in the northeast portion of the Site (i.e., in proximity to TB-7). Monitoring well MW-3 was advanced to a completion depth of 20 feet bgs. Strong petroleum odors and a maximum PID reading of 1,349 ppm on a soil sample from 11 feet bgs were detected at MW-3. The well is screened from 10 to 20 feet bgs, and groundwater was measured at a depth of 17.08 feet below the top of casing on August 29, 2004.

Analytical laboratory testing of soil and groundwater samples collected from the above locations, identified the following petroleum-type impacts at the Site:

- A soil sample collected from test boring TB-7 at 15.5 feet bgs contained concentrations of STARS-list volatile organic compounds (VOCs) ranging in concentration from 111 to 7,330 ppb, and semi-volatile organic compounds (SVOCs) (fluoranthene, phenanthrene, pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene) ranging in concentration from 1,880 to 4,180 ppb that exceeded recommended soil cleanup objectives (RSCOs). In addition, this sample was characterized as containing medium-weight total petroleum hydrocarbons (TPH) interpreted as diesel fuel and heavy-weight TPH interpreted as lube oil detected at concentrations of 13,400 ppb and 41,100 ppb, respectively.

- Soil samples from the TP-27 location were not analyzed as part of the investigation.

- Analytical laboratory results for the groundwater sample collected at the MW-3 location indicated concentrations exceeded guidance values for eleven STARS List VOCs ranging in concentration from 45.4 to 2,560 ppb. This sample was also characterized as containing light-weight TPH interpreted as gasoline detected at a concentration of 421 ppb.

DAY Phase II Environmental Study Evaluation Report

This report describes studies conducted on an adjoining property to the north (North Study Area) and nearby property to the south (South Study Area). The Site was not included in this study, but contamination in the North Study Area has the potential to impact the Site; thus, the North Study Area is further discussed below.

The North Study Area has historically been improved with a gasoline station(s), an auto sale and repair facility, a railroad tack house, and a concrete plant. Records indicate at least eight USTs have been located on the North Study Area. There appears to be at least two sources of the contamination related to former tanks or pump dispensers located in the North Study Area. The contaminants detected in the soil consist of VOCs and SVOCs, and contaminants detected in the groundwater consist primarily of VOCs. The detected VOCs and SVOCs in soil and groundwater are constituents typically found in petroleum fuels and/or petroleum products.

Between May 7, 2001 and May 24, 2001, thirty test borings were advanced in the North Study Area to depths ranging between approximately 9 feet and 20 feet below the ground surface. Analytical laboratory results indicate that soil samples from five (5) test borings contained aromatic VOCs and/or SVOCs (including benzo(a)pyrene; benzo(a)anthracene; m,p-xylene; o-xylene; 1,3,5-trimethylbenzene; and 1,2,4-trimethylbenzene) at concentrations ranging from 353 ppb to 34,400 ppb (i.e., exceeding their respective recommended soil cleanup objectives identified in *TAGM #4046).*

The analytical laboratory results for groundwater samples from monitoring wells at the North Study Area identified eleven (11) VOCs and/or SVOCs exceeding the ambient groundwater standards identified in the NYSDEC Technical and Operational Guidance Series 1.1.1 [TOGS (1.1.1)] ranging in concentration from 1.6 ppb to 12,100 ppb. These compounds include benzene, ethylbenzene; m,p-xylene, o-xylene, isopropylbenzene, n-propylbenzene; 1,3,5-trimethylbenzene; 1,2,4-trimethylbenzene, methylene chloride, naphthalene, and toluene.

The NYSDEC was notified of subsurface conditions encountered at the North Study Area and the NYSDEC subsequently assigned Spill #0070377 to the North Study Area, which is comprised of parcels addressed as 151, 171, 173, 175, 177, and 191 Mount Hope Avenue. The spill is currently listed as "active".

URS Phase II ESA Report

As part of the Phase II ESA conducted by URS at 185-425 Mount Hope Avenue, two test borings were advanced at the Site and completed as monitoring wells (MW-URS3 and MW-URS4). The locations of these monitoring wells are depicted on Figure 2. MW-URS3 (located on the southeast portion of the Site), was advanced to a completion depth of 20 feet bgs. During installation, no odors were noted on the soil samples and a maximum PID reading of 0.4 ppm was measured on soil samples between 6 and 10 feet bgs. Well URSMW-4 (located in the central portion of the Site) was advanced to a completion depth of 16 feet bgs. During installation, a slight non-descript odor and dark staining were observed on soil samples from between 6 and 10 feet bgs, and a maximum PID reading of 0.6 ppm was measured on a soil sample from 14 feet bgs. Groundwater monitoring wells MW-URS3 and MW-URS4 were constructed with screened intervals from 9.5 to 19.5 feet bgs, and 6 to 16 feet bgs, respectively.

Analytical laboratory results for soil and groundwater samples collected from MW-URS3 and MW-URS4 indicated that no VOCs or SVOCs were detected at these locations.

Summary of Previous Environmental Studies

The previous environmental studies identified petroleum contamination in soil and groundwater on the northeastern portion of the Site. The source(s) of this contamination appears to be from a former gasoline station to the north; however, as shown on Figure 2, it is possible that USTs associated with this adjoining gas station may have actually been located on the Site. The work completed to date roughly defines the extent of petroleum contamination on the Site; however, further delineation is appropriate to define a recommended remedial alternative for the Site. In addition to the identified petroleum contamination on the Site, potential impacts associated with the former Erie Canal feeder, the former railroad yard and tracks on the western two-thirds of the Site, and the effect of VOC vapor accumulation beneath the building slab require additional evaluation.

1.2 Project Contacts

This section of the Work Plan provides the names, contact information, and responsibilities of individuals named as contacts for this project. The NYSDEC will be notified if the principal personnel designated on the contact list change, and information on the new contact will be provided to the NYSDEC in a timely manner.

Representative of Participant/Facility Contact:

Mr. Allen Handelman
Project Director
Conifer Hamilton, LLC
183 East Main Street, 6th Floor
Rochester, New York 14604
(585) 324-0512
ahandelman@coniferllc.com

Environmental Consultant

Raymond L. Kampff
Associate
Day Environmental, Inc.
40 Commercial Street
Rochester, New York 14612
(585) 454-0210 (x108)
rkampff@daymail.net
Responsible for document review and overall completion of the project

Jeffrey A. Danzinger
Project Manager
Day Environmental, Inc.
40 Commercial Street
Rochester, New York 14612
(585) 454-0210 (x114)
jdanzinger@daymail.net
Responsible for document preparation and project management activities

Scott T. Fischer
Project Geologist
Day Environmental, Inc.
40 Commercial Street
Rochester, New York 14612
(585) 454-0210 (x110)
sfischer@daymail.net
Responsible for document preparation and fieldwork activity coordination

2.0 PROJECT OBJECTIVES

The primary objective of this project is to perform environmental work at the Site in accordance with the requirements of the Brownfield Cleanup Program to evaluate the nature and extent of contamination at the Site. Another objective is to qualitatively evaluate potential human health exposures for on-site and off-site receptors. The scope of work will include: confirmation and/or further delineation of contamination in areas identified as RECs during previous studies (excluding SACM or ACM); identification of potential routes of exposure, and potential receptors; evaluation of fate and transport of contaminants; identification of remedial alternatives; and performance of a detailed analysis of selected remedial alternatives.

3.0 SCOPE OF WORK

The scope of work presented herein includes studies to characterize conditions at the Site and to identify potential remedial alternatives and their feasibility. The studies will include: surface soil sampling; a geophysical EM-61 electromagnetic metal detector survey; subsurface soil sampling; advancement of test borings; installation of groundwater monitoring wells; sub-slab air evaluation; and subsequent analysis of samples. The analytical laboratory data collected will be compared to available and applicable Standards, Criteria, and Guidelines (SCGs). The scope of work also includes the preparation of a Remedial Investigation/Remedial Alternatives Analysis (RI/RAA) report. The following sections describe the scope of studies planned at the Site.

3.1 Surface Soil Evaluation

Surface soil samples will be collected at the Site from a depth interval of 0-2 inches below the top of exposed soil surfaces or immediately beneath vegetative cover and placed into sampling containers utilizing stainless steel sampling tools decontaminated according to procedures outlined in section 4.4 of this report. Surface soil samples will be collected from two locations on the vegetated areas located near the apartment complex on the Site. The purpose of the surface soil samples is to evaluate whether surficial contamination is present that could pose potential human health exposures. Tentative locations for these samples are depicted on Figure 2 included in Appendix A. Any modifications to these locations will involve input from the NYSDEC site representative. The analytical laboratory testing program for these samples is identified in Section 3.5 and on Table 1 included in Appendix B of this Work Plan.

3.2 EM-61 Electromagnetic Survey

Prior to advancing test borings, an EM-61 electromagnetic detector survey will be conducted at the Site to evaluate the subsurface for evidence of buried metallic anomalies that could be indicative of possible underground storage tanks (USTs), associated piping, and/or active utilities.

If the EM-61 electromagnetic detector survey identifies anomalies indicative of possible USTs, test pits will be excavated at those locations to determine the source of the anomalies.

3.2.1 Closure of Tanks (Contingency IRM)

If USTs are encountered during this investigation, their size and contents will be characterized and the UST(s) will be permanently closed (e.g., removed or closed in-place) in accordance with applicable regulations.

A contractor certified to remove USTs in the City of Rochester limits will be retained to permanently close (e.g., remove) the UST(s). During the closure work, DAY will collect a sample of the contents from the UST(s). The sample will be analyzed for full target compound list/target analyte list (TCL/TAL) parameters, and for any additional disposal characterization parameters that are required by the waste disposal contractor.

A DAY representative will also observe and document the removal of the UST(s). This will include a visual examination of the UST(s) and piping for holes or other structural deficiencies, and a visual examination of the excavation for soil and/or groundwater contamination. The site assessment will be generally consistent with the recommendations described in the NYSDEC *Spill Prevention and Operations Technology Series, Site Assessments at Bulk Storage Facilities* (SPOTS No. 14) dated August 1, 1994 and will include field observations, field measurements, and field analysis as follows:

- Visually observe excavated and in-situ soils, bedrock, fill, and groundwater (if encountered) for evidence of suspect contamination.
- Screen selected samples for total VOCs in the field with a PID, and document results.
- Photograph the UST(s), piping and the excavated pit(s) for documentation purposes.
- Document any cleaning and the disposal of the UST(s), piping, contents, and the wash waters.
- Collect samples of the tank contents, from the excavation pits, and from beneath piping, for possible analytical laboratory testing.
- Develop a field drawing illustrating the location of the UST(s).

Upon completion of the closure work, pertinent information will be summarized in the report identified in Section 3.7. This will include field observations, field measurements, copies of photographs and a drawing illustrating the approximate location of the UST and ancillary equipment. DAY will also assist the Applicant in completing a NYSDEC Petroleum Bulk Storage (PBS) permit application, if necessary.

3.3 Subsurface Soil and Groundwater Evaluation

This section describes the tasks that will be performed to evaluate subsurface soil and groundwater conditions at the Site.

3.3.1 Test Borings

During this study, up to 10 test borings will be advanced on the Site. The tentative locations of some of these test borings are shown on Figure 2 included in Appendix A. It is anticipated that test borings will be used to evaluate the areas around the apartment building complex, within the former Erie Canal feeder, in the area formerly occupied by the rail yards, and to further delineate the petroleum contamination identified during previous investigations on the northeastern portion of the Site.

The Applicant and the NYSDEC will be consulted if the number of test borings varies from those identified above to evaluate or delineate contamination attributable to the Site.

DAY will retain the services of a subcontractor to provide vehicle-mounted direct-push soil sampling equipment to advance the test borings. However, if it is determined in the field that such equipment cannot adequately be advanced through the existing overburden soils, then a conventional rotary drill-rig will be used to advance test borings, and the NYSDEC will be consulted to approve any modifications to the drilling program.

It is anticipated that the test borings will be advanced to equipment refusal or a minimum of five feet below the groundwater table. However, in the event PID readings greater than 5 ppm are measured above samples collected at five feet below the groundwater table, the borings will be advanced deeper until the PID screening concentrations are less than 5 ppm or equipment refusal is encountered. Sampling equipment will be used to collect soil samples in two-foot or four-foot intervals throughout the entire depth of the test borings. The soil samples will be collected in new disposable plastic liners.

The recovered soil samples will be visually examined by a DAY representative for evidence of suspect contamination (e.g., staining, unusual odors). Portions of the samples will be placed in containers for possible analytical laboratory testing. The analytical laboratory testing program for these samples is identified in Section 3.5 of this Work Plan and on Table 1 included in Appendix B. Different portions of the recovered soil samples will be placed in sealable plastic bags and screened with a PID in order to evaluate if VOCs are present in the samples. The test borings not completed as monitoring wells will be grouted upon completion to preclude cross-contamination.

A DAY representative will record pertinent information for each boring on a test boring log. The recorded information will include:

- Date, boring identification, and project identification.
- Name of individual developing the log.
- Name of drilling company.
- Drill make and model.
- Identification of any alternative drilling methods used.
- Depths recorded in feet and fractions thereof (tenths of inches) referenced to ground surface.
- The length of the sample interval and the percentage of the sample recovered.
- The depth of the first encountered water table, along with the method of determination, referenced to ground surface.
- Drilling and borehole characteristics.
- Sequential stratigraphic boundaries.
- Initial PID screening results of soil samples, and/or PID screening results of ambient headspace air above selected samples.

3.3.2 Groundwater Monitoring Wells

Up to two (2) of the test borings described in Section 3.3.1 will be converted into overburden groundwater monitoring wells. The tentative locations of these groundwater monitoring wells are shown on Figure 2 included in Appendix A; however, actual locations may vary depending upon site conditions encountered and input from the NYSDEC. It is anticipated that these monitoring wells will be installed at the following locations:

- One (1) well near the northwestern corner of the Site; and
- One (1) well centrally located on the Site within the former Erie Canal feeder.

Each groundwater monitoring well will be constructed of one-inch inner diameter (ID) polyvinyl chloride (PVC) with a five-foot to ten-foot long screen attached to solid riser. The well screen will be placed to intercept the top of the water table. The annulus around the screens will be backfilled with a sand pack. A minimum two-foot bentonite seal will be placed above the sand pack and the remaining annulus will be filled with cement/bentonite grout. A steel protective casing or curb box with locking cap will be placed over each well and sealed in place with concrete. Static water level measurements will be taken from each monitoring well (including the previously installed monitoring wells) using an oil/water interface meter (Heron Model HO1.L, or similar). DAY will also look for light non-aqueous phase liquid (LNAPL) and dense non-aqueous phase liquid (DNAPL) by using visual observations and the oil/water interface meter at each well location. DAY will document the results of this work in the field. A licensed surveyor will measure the elevations of the "new" monitoring wells to the same datum as the existing monitoring wells.

A DAY representative will record pertinent information on well logs. The recorded information will include:

- Date, boring/well identification, and project identification.
- Name of individual developing the log.
- Name of drilling contractor.
- Drill make and model, auger size.
- Identification of alternative drilling methods used and justification thereof.
- Depths recorded in feet and fractions thereof (tenths of inches) referenced to ground surface.
- The length of the sample interval and the percentage of the sample recovered.
- The depth of the first encountered water table, along with the method of determination, referenced to ground surface.
- Drilling and borehole characteristics.
- Sequential stratigraphic boundaries.
- Well specifications (materials, screened interval, etc.).
- PID screening results of ambient headspace air above selected soil samples.

Well Development

Approximately one week following installation, the "new" monitoring wells will be developed prior to sampling by utilizing either a new dedicated bailer with dedicated cord, or a pump and dedicated tubing. Existing monitoring wells will be sounded and redeveloped if significant amounts of fine materials have accumulated within the screened interval. No fluids will be added to the well during development, and well development equipment will be decontaminated prior to development of each well. The monitoring well development procedure will be as follows:

- Obtain pre-development static water level readings.
- Calculate water/sediment volume in the well.
- Obtain groundwater sample for field analysis using bailer.

- Select development method and set up equipment depending on method used.
- Begin pumping or bailing.
- Obtain initial field water quality measurements (e.g., pH, conductance, turbidity, temperature, and PID readings). Record water quantities and rates removed.
- Obtain field water quality measurements for every well casing volume of water removed.
- Stop development when water quality criteria are met.
- Obtain post-development water level readings.
- Document development procedures, measurements, quantities, etc.

To the extent practicable, development will continue until the following criteria is achieved:

- Water is clear, free of sediment and turbidity is less than 5 nephelometric turbidity units (NTU);
- Monitoring parameters have stabilized (i.e., pH varies less than 0.1 unit; conductance, temperature, and other parameters vary less than 10%); and
- A minimum of three well volumes have been removed, or to dryness.

Sampling of Groundwater

One (1) round of groundwater samples will be collected from the "new" and existing monitoring wells for subsequent analytical laboratory testing. Groundwater samples will be collected within one week of completing well development at the respective wells. DAY will document the results of this work in the field. A second round of groundwater sampling may be conducted if deemed warranted by the analytical results of the initial round of groundwater sampling. If additional sampling is deemed necessary, the Applicant and NYSDEC will be consulted.

Subsequent to obtaining static water level and LNAPL measurements, each well will be purged by evacuating a minimum of three well casing volumes of water using low flow purging techniques. To the extent practicable, care will be taken not to aerate the sand pack/screened interval.

Low-flow purging and sampling procedures will be followed to collect the groundwater samples. The procedures are outlined below:

- In order to minimize the potential re-suspension of solids in the bottom of the well, well depths will not be measured prior to or during low-flow purging and sampling. Well depth information will be obtained from: 1) measurements collected during well development; 2) from well logs; or 3) will be measured after sampling is completed.
- Prior to purging and sampling, static water level measurements will be taken from each well using a Heron Model H01.L oil/water interface probe or similar instrument. DAY will also look for LNAPL by using visual observations and the Heron oil/water interface probe or similar instrument at each well location. DAY will document the results of this work in the field.
- A portable bladder pump connected to new disposable polyethylene tubing will be lowered and positioned at or slightly above the mid-point of the well screen when the screened interval is set in relatively homogeneous material. When the screened interval is set in

heterogeneous materials, the pump will be positioned adjacent to the zone of highest hydraulic conductivity (as defined by geologic samples). Care will be taken to install and lower the bladder pump slowly in order to minimize disturbance of the water column.

- The pump will be connected to a control box that is operated on compressed gas (nitrogen, air, etc.) and is capable of varying pumping rates. An in-line flow-through cell attached to a Horiba U-22 water quality meter (or similar equipment) will be connected to the bladder pump effluent tubing to measure water quality data.

- The pump will be started at a low pumping rate of 100 ml/min or less (for pumps that can not achieve a flow rate this low, the pump will be started at the lowest pump rate possible). The water level in the well will be measured and the pump rate will be adjusted (i.e., increased or decreased) until the drawdown is stabilized. In order to establish the optimum flow-rate for purging and sampling, the water level in the well will be measured on a periodic basis (i.e., every one or two minutes) using an electronic water level meter or the Heron Model HO1.L oil/water interface meter (or equivalent). When the water level in the well has stabilized (i.e., use goal of < 0.33 ft of constant drawdown), the water level measurements will be collected less frequently.

- While purging the well at the stabilized water level, water quality indicator parameters will be monitored on a three to five minute basis with a Horiba U-22 water quality meter (or similar equipment). Water quality indicator parameters will be considered stabilized after three consecutive readings for each of the following parameters are generally achieved:

  - pH ($\pm$ 0.1);
  - specific conductance ($\pm$ 3%);
  - dissolved oxygen ($\pm$ 10 %);
  - oxidation-reduction potential ($\pm$ 10 mV);
  - temperature ($\pm$ 10%); and
  - turbidity ($\pm$ 10%, when turbidity is greater than 10 NTUs)

- Following stabilization of the water quality parameters, the flow-through cell will be disconnected and a groundwater sample will be collected from the bladder pump effluent tubing. The pumping rate during sampling will remain at the established purging rate or it may be adjusted downward to minimize aeration, bubble formation, or turbulent filling of sample containers. A pumping rate below 250 ml/min will be used when collecting VOC samples. The proposed analytical laboratory testing program for groundwater samples is identified in Section 3.8 and on Table 1 included in Appendix C.

- To minimize the potential for re-suspension of solids in the bottom of the well, DAY will look for DNAPL subsequent to purging and sampling at each well location by using visual observations of a sample collected from the bottom of the groundwater well and/or the Heron oil/water interface probe (or equivalent). DAY will document the results of this work in the field.

To assist in evaluating whether NAPL is present in groundwater samples that contain elevated PID measurements (i.e., greater than 250 ppm) or observations of sheen, free product, etc., groundwater from such wells will be placed in a sample container.

Hydrophobic dye will be introduced to the sample or an ultraviolet (UV) fluorescence light will be used to screen the sample.

If LNAPL or DNAPL is detected, DAY will notify representatives of the NYSDEC, and DAY will collect a sample of LNAPL and/or DNAPL for analytical laboratory testing. LNAPL and DNAPL samples will be collected by using the bladder pump system. The tentative analytical laboratory testing program for NAPL samples is identified in Section 3.5 and on Table 1 included in Appendix C. In the event that there is insufficient volume of NAPL to analyze for the full list of parameters, then the NYSDEC project manager will prioritize the analyses to be performed.

The procedures and equipment used during the low-flow purging and groundwater sampling, the field measurement data, as well as any NAPL sampling, will be documented in the field and recorded on a Monitoring Well Sampling Log.

For wells set in low-permeability formations and fractured bedrock, alternative purging and sampling techniques from those specified above may become necessary. Any changes in technique shall be presented and approved by the NYSDEC site representative.

Prior to use and between wells, the portable bladder pump and any other reusable equipment (e.g., support cable) that come in contact with groundwater will be decontaminated using the following procedures:

- Rough-wash the interior and exterior of the pump with tap water followed by a wash in a mixture of tap water and Alconox®-type soap;
- Discard the tap water with Alconox®-type soap into a 55-gallon drum and rinse the pump until soap is no longer visible, and transfer the rinse water to the 55-gallon drum;
- Rinse the pump and other re-usable equipment with deionized water and transfer used rinse water to the 55-gallon drum [Note: If metals are not to be analyzed, distilled water can be used in lieu of deionized water].

The field measurement data will be presented on Monitoring Well Sampling Logs. The analytical laboratory testing program for groundwater samples is identified in Section 3.5 of this Work Plan.

Groundwater Potentiometric Maps

The location of the wells will be surveyed or tape-measured in relation to surveyed Site boundaries or Site structures, and a licensed land surveyor retained by DAY will survey their elevations. DAY will use the static water level measurements collected during implementation of the groundwater sampling event to develop a groundwater potentiometric map. The potentiometric map will be used to evaluate groundwater flow conditions at the Site.

3.4 Sub-Slab Air Evaluation

Previous subsurface studies indicate soil and groundwater on portions of the Site are impacted with VOCs, SVOCs, and TPH; therefore, two sub-slab soil-gas sampling points will be installed in the building at the Site in order to evaluate sub-slab soil gas for potential

contaminants. In addition, an indoor air sample will also be collected in proximity to each sub-slab sample (i.e., two indoor air samples). Also, one ambient air sample will be collected from the roof (if accessible) of the main building, or other appropriate location, at an upwind location from building vents to represent background concentrations. The actual locations will be selected with input from the NYSDEC site representative.

A rotary hammer drill will be used to cut an opening approximately ½" to 1" in diameter through the floor slab. Subsequently, a piece of tygon tubing will be inserted into the resulting hole, and the tubing will be sealed to the concrete using a cement-bentonite grout or VOC-free pliable caulk. The tubing will be capped (sealed) above the floor surface to prevent vapors from escaping. Prior to sampling, the sub-slab soil gas sampling points will be left for 2-3 days to allow the cement-bentonite grout or the VOC-free pliable caulk to cure and to allow the sub-slab soil gas to return to ambient conditions.

At the time of sampling, the seal around the tubing will be visually evaluated. In the event that the seal appears broken, the tubing will be resealed and the sampling points will be left for an additional 2-3 days to allow the cement-bentonite grout or VOC-free pliable caulk to cure and to allow the sub-slab soil gas to return to ambient conditions. The tubing from the sub-slab soil gas sampling points will subsequently be connected to 6-liter Suma Canisters. The two sub-slab air samples, indoor air samples and background air sample will be collected over a 6-hour period. This sampling time will be used to allow a flow rate of approximately 16 milliliters per minute (ml/min). The air flow-rate will be controlled with a pre-calibrated regulator supplied by the laboratory. This "low-flow" of air should prevent pulling air in from above the slab. Summa Canister operating instructions are included in Appendix D. In addition, the vacuum gauges on the regulators will be monitored hourly to verify proper operation (i.e., slow changes in vacuum). Following sampling, the sub-slab soil gas sampling points will be sealed with concrete to grade.

The five Summa Canister samples (i.e., 2 sub-slab soil gas samples, 2 indoor air samples, and 1 background air sample) will be delivered under chain-of-custody control to Paradigm. The analytical laboratory testing program for these samples is identified in Section 3.5 and on Table 1 included in Appendix B.

The analytical laboratory tests results will be compared to the USEPA *Draft Guidance for Evaluating the Vapor Intrusion into Indoor Air Pathway from Groundwater and Soils* dated November 2002. Specifically, Table 2c will be used for assisting with evaluation of the VOC analytical test results.

3.5 Analytical Laboratory Testing Program

Unless otherwise noted, samples of various site media (e.g., surface soil, subsurface soil and groundwater) will be tested at Mitkem Corporation (Mitkem) located in Warwick, Rhode Island. Mitkem is a NYSDOH ELAP Contract Laboratory Protocol (CLP) certified analytical laboratory (ELAP #11522).

Samples to be submitted for analytical laboratory testing will be approved by the NYSDEC field representative. The analytical laboratory test results will be reported in NYSDEC ASP Category B deliverables reports. The test results will be compared to available soil and groundwater SCGs. The anticipated analytical laboratory program for samples collected as

described in Section 3.0 of this Work Plan is shown on Table 1 (Analytical Laboratory Testing Program) included in Appendix C and is further defined herein.

Surface Soil Evaluation

The two (2) discrete grab surface soil samples will be tested for full TCL/TAL parameters using 2000 ASP CLP Methods OLM04.2 and ILM04.1.

Subsurface Soil and Groundwater Evaluation

Soil samples from the test boring and groundwater monitoring well locations will be selected for analytical laboratory testing based upon VOC vapor concentrations measured with the PID, sample observations, and relative location on the Site for delineation purposes and to obtain data in areas of potential concern as approved by the NYSDEC field representative. As shown, it is presumed that the following number of soil samples will be tested for the following parameters:

- Two (2) samples for Full TCL/TAL parameters using ASP CLP Methods OLM04.2 and ILM04.1.
- Eight (8) samples for VOCs and SVOCs using ASP CLP Method OLM04.2.

The groundwater samples from the up to five (5) wells (three existing and two new wells) will be analyzed for full TCL/TAL parameters using ASP CLP Methods OLM04.2 and ILM04.1. If deemed necessary and/or appropriate, a second round of groundwater samples will be tested for a list of parameters to be agreed upon by the NYSDEC site representative.

If LNAPL or DNAPL samples are collected from groundwater monitoring wells, they will be analyzed for parameters specified by the NYSDEC field representative. Anticipated testing parameters include: gasoline range organic (GRO) and diesel range organic (DRO) total petroleum hydrocarbons (TPH) using USEPA Method 8015; and Full TCL/TAL parameters using ASP CLP Method OLM04.2 and Method ILM04.1.

Sub-Slab Air Evaluation

The two sub-slab soil gas samples, the two indoor air samples, and the one background sample will be analyzed for VOCs using USEPA Method TO-15. The detection limits provided by Paradigm using USEPA Method TO-15 are shown in Appendix C. [Note, the actual analytical testing will be completed by Paradigm's subcontractor (Columbia Analytical Services, Inc. located in Simi Valley, California).]

3.6 Exposure Assessment

A qualitative human health exposure assessment will be performed in accordance with the provisions set forth in Appendix 3B of the Draft DER-10 Technical Guidance for Site Investigation and Remediation dated December 2002. The exposure assessment will: evaluate actual and potential exposures to Site contaminants; describe the nature and size of the population exposed, or potentially exposed, to the contaminants attributable to the Site; and characterize the exposure setting and identify exposure pathways. The qualitative human health exposure assessment will be included as part of the Remedial Investigation Report.

Utilizing the decision key included as Appendix 3C of DER-10, it is concluded that a Fish and Wildlife Resource Impact Analysis may be warranted for this Site. This determination is made since surface water and wildlife resources associated with the Genesee River are in proximity to the Site, and it is not conclusively known whether subsurface contamination at the Site has the potential to impact these resources. Subsequent to obtaining additional soil and groundwater laboratory test results, the NYSDEC will be consulted to determine if a Fish and Wildlife Resource Impact Analysis is warranted for the Site.

3.7 Remedial Investigation/Remedial Alternatives Analysis Report

DAY will develop and submit a Remedial Investigation/Remedial Alternatives Analysis (RI/RAA) report for the project. This report will be developed in accordance with the provisions set forth in Section 3.14 and Section 4.0 of the *Draft DER-10 Technical Guidance for Site Investigation and Remediation* dated December 2002. The findings of the studies, as well as information pertaining to options for future re-use of the Site, will be presented in the RI/RAA Report. The RI/RAA will include information on the following components:

- The scope of work of the remedial investigation.
- The findings of the remedial investigation [physical characteristics of the site, the nature and extent of contaminants (if any), potential sources of contamination, contaminant fate and transport, etc].
- A comparison of the data in relation to SCGs.
- A qualitative human health exposure assessment.
- A Fish and Wildlife Resource Impact Analysis, if warranted.
- Identification and development of remedial alternatives for the Site (including unrestricted use of the Site).
- Detailed analysis of selected remedial alternatives for the Site.
- A recommendation on the remedial alternative to be implemented at the Site.

A draft copy of the RI/RAA report will initially be submitted to representatives of regulatory agencies (e.g., NYSDEC, NYSDOH). Subsequent to review and comment, the RI/RAA report will be finalized.

3.8 Study-Derived Wastes

Soil cuttings, decontamination water, well development, and purge water etc. generated during the soil boring and well installation work will be placed in New York State Department of Transportation (NYSDOT)-approved 55-gallon drums, which will be labeled and staged on-site until a proper disposal method can be determined.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

As part of this Work Plan, quality assurance/quality control (QA/QC) protocol and procedures have been developed and will be used during this project.

4.1 Operation and Calibration of On-Site Monitoring Equipment

Volatile vapor monitoring will be conducted using a PID. It is anticipated that a Minirae 2000 PID equipped with a 10.6 eV lamp, or equivalent, will be used during this project. The PID will be calibrated to manufacturer's specifications using an Isobutylene gas standard prior to use and as necessary during fieldwork. Measurements will be collected before operations begin in an area to determine the amount of VOCs naturally occurring in the air (i.e., background concentrations).

If USTs are present on-site, an oxygen/lower explosive limit (O_2/LEL) meter will be used to monitor total oxygen and the lower explosive limit during their closure. The O_2/LEL meter is a direct reading instrument that will aid in determining the presence of combustible vapors or flammable vapors. A Gastech Model 1939OX O_2/LEL meter, or equivalent, will be used. The O_2/LEL meter will be calibrated prior to each day it is used in accordance with the manufacturer's specifications.

Other miscellaneous field equipment that may be used during this project includes:

- an electronic static water level indicator;
- an oil/water interface meter;
- a Horiba U-22 water quality meter;

These meters will be calibrated, operated, and maintained in accordance with the manufacturer's recommendations.

4.2 Record Keeping

DAY will document project activities in a bound field book on a daily basis. Information that will be recorded in the field book will include:

- Dates and time work is performed;
- Details on work being performed;
- Visual and olfactory observations during monitoring activities;
- PID measurements collected during monitoring activities;
- O2/LEL monitoring measurements;
- Sampling locations and depths;
- Personnel on-site; and
- Weather conditions.

Additionally, DAY will record information from test pits, test borings and groundwater monitoring wells on designated logs. Well development and well sampling data will also be presented on well development logs and well sampling logs, respectively.

4.3 Sampling and Laboratory Analysis Protocol

During sampling activities, personnel will wear disposable latex gloves. Between collection of each soil sample, personnel performing the sampling will discard used latex gloves and put on new latex gloves to preclude cross-contamination between samples.

New laboratory-grade sample containers will be used to collect soil and groundwater samples. Sufficient volume (i.e., as specified by the analytical laboratory) will be collected to ensure that the laboratory has adequate sample to perform the specified analyses.

Samples that are collected as part of the investigation project will be handled using chain-of-custody (COC) control. COC documentation will accompany samples from their inception to their analysis, and copies of COC documentation will be included with the laboratory's report. The COC will include the date and time the sample was collected, the sample identity and sampling location, and the requested analysis.

The analytical laboratory test results will be reported in NYSDEC ASP Category B deliverables reports.

The number of samples, type of media of samples, test parameters for samples and QA/QC to be performed on samples as part of this project are summarized on Table 1 (Analytical Laboratory Testing Program) included in Appendix C. The laboratory will analyze the samples using the lowest PQLs possible. The laboratory that performs the analyses will provide internal QA/QC data that are required by NYSDEC ASP protocol, such as analyses performed on method blanks, and surrogate recovery results.

Sample holding times and preservation protocols will be adhered to during this project. Soil samples will be reported on a dry-weight basis.

In order to provide control over the collection, analysis, review, and interpretation of analytical data, the following QA/QC samples will be included as part of this investigation:

- One trip blank will be included per 10 liquid samples, or per shipment if less than 10 samples, when the shipment contains liquid field samples that are to be analyzed for VOCs using ASP CLP Method OLM04.2. The trip blanks will be analyzed for VOCs using ASP CLP Method OLM04.2

- One matrix spike/matrix spike duplicate (MS/MSD) will be analyzed for each 20 field samples of each matrix (e.g., soil, groundwater, etc.) that are shipped within each seven-day period. Specific parameters that MS/MSD samples will be tested for will be dependent upon the test parameters of the samples that are being analyzed.

- During advancement of test borings, one field blank (i.e., rinsate sample) will be collected from the sampling equipment and be analyzed for full TCL/TAL parameters using ASP CLP Methods OLM04.2 and ILM04.1 for each type of drilling equipment used (e.g., direct-push drilling equipment).

DAY will retain the services of a third party data validation subcontractor to perform a data usability summary report (DUSR) on the analytical data that is generated as part of this project. The DUSR will be conducted in accordance with the provisions set forth in Appendix 2B of the Draft DER-10 Technical Guidance for Site Investigation and Remediation dated December 25, 2002. As part of DAY's services, DAY will review the DUSR and incorporate its findings in the RI/RAA report.

DAY's quality assurance officer (QAO) for QA/QC on this project will be Barton F. Kline, P.E. Mr. Kline's responsibilities on this project do not include project productivity or profitability, which are job performance criteria of the project manager or task manager.

4.4 Decontamination Procedures

In order to reduce the potential for cross-contamination of samples during this project, the following procedures will be implemented to ensure that the data collected (primarily the laboratory data) is acceptable.

It is anticipated that most of the materials used to assist in obtaining samples will be disposable one-use materials (e.g., sampling containers, bailers, rope, pump tubing, latex gloves, etc.). However, when equipment must be re-used (e.g., static water level indicator, oil/water interface meter, etc.), it will be decontaminated by at least one of the following methods:

- steam clean the equipment; or
- rough wash in tap water; wash in mixture of tap water and alconox-type soap; double rinse with deionized or distilled water; and air dry and/or dry with clean paper towel.

When deemed necessary, a temporary decontamination pad will be constructed for decontamination of field equipment. Decontamination liquids and disposable equipment and personal protective equipment (PPE) will be containerized and left on-site until a proper disposal method is determined, etc.

5.0 HEALTH AND SAFETY PLAN

Attached as Appendix E is a copy of a site-specific Health and Safety Plan (HASP) to be implemented during this project. The HASP was developed to outline the policies and procedures necessary to protect workers and the public from potential environmental hazards posed during investigation activities at the Site.

6.0 CITIZEN PARTICIPATION

A Citizen Participation Plan (CPP) will be submitted to regulatory agencies as a separate document. The CPP and other project-related documents are available for review at NYSDEC offices or at the document repository at the Central Library of Rochester and Monroe County, 115 South Avenue, Rochester, New York. Citizen participation will be conducted in general accordance with the provisions set forth in the NYSDEC DER Draft Brownfield Cleanup Program Guide dated May 2004.

7.0 SCHEDULE

The projected schedule for conducting the tasks identified in this Work Plan for this project are provided in this section of the Work Plan. It is anticipated that these tasks will be initiated as follows:

3.1	Surface Soil Evaluation	Within 1-2 weeks after Work Plan approval
3.2	EM-61 Electromagnetic Locator Survey	Within 1-2 weeks after Work Plan approval
3.3	Subsurface Soil and Groundwater Evaluation	Within 2-3 weeks after Work Plan approval
3.4	Sub-Slab Air Evaluation	Within 4-6 weeks after Work Plan approval
3.5	Analytical Laboratory Testing	To concur with associated tasks
3.6	Exposure Assessment (Including Fish and Wildlife Resource Impact Analysis, if warranted)	Subsequent to obtaining data from Tasks 3.2 through 3.5, and concurrent to Task 3.7
3.7	RI/RAA Report	On-going works during Tasks 3.1 through 3.6. Complete within 12-16 weeks after Work Plan approval
3.8	Study-Derived Wastes	Completed as generated during Tasks 3.1 through 3.4 and in accordance with applicable regulations.

Subsequent to receiving approval of the final Work Plan by the NYSDEC, a detailed estimated progress schedule, including dates, can be submitted to the NYSDEC (if required). Conditions beyond the control of DAY may occur that could affect this schedule. This schedule also assumes that the scope of the tasks provided herein will not be significantly revised.

8.0. REFERENCES

NYSDEC DER Draft Brownfield Cleanup Program Guide; May 2004

NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation; December 2002

NYSDEC Spill Prevention Operations Technology Series, SPOTS No. 14; Site Assessments at Bulk Storage Facilities; August 1, 1994

USEPA Draft Guidance for Evaluating the Vapor Intrusion into Indoor Air Pathway from Groundwater and Soils; November 2002

Ground Water Resources of Monroe County; 1935; R.M. Leggette, L.O. Gould and B.H. Dollen

Phase I Environmental Site Assessment, 151 to 435 Mount Hope Avenue and 562 Ford Street, Rochester, New York; October 24, 2000; Day Environmental, Inc.

Phase II Environmental Study Data Package, 151 to 435 Mount Hope Avenue and 562 Ford Street, Rochester, New York; October 2000; Day Environmental, Inc.

Phase II Data Evaluation Report, 151, 171, 173, 175, 177, 191, 425, and 435 Mount Hope Avenue and 562 Ford Street, Rochester, New York; February 2002; Day Environmental, Inc.

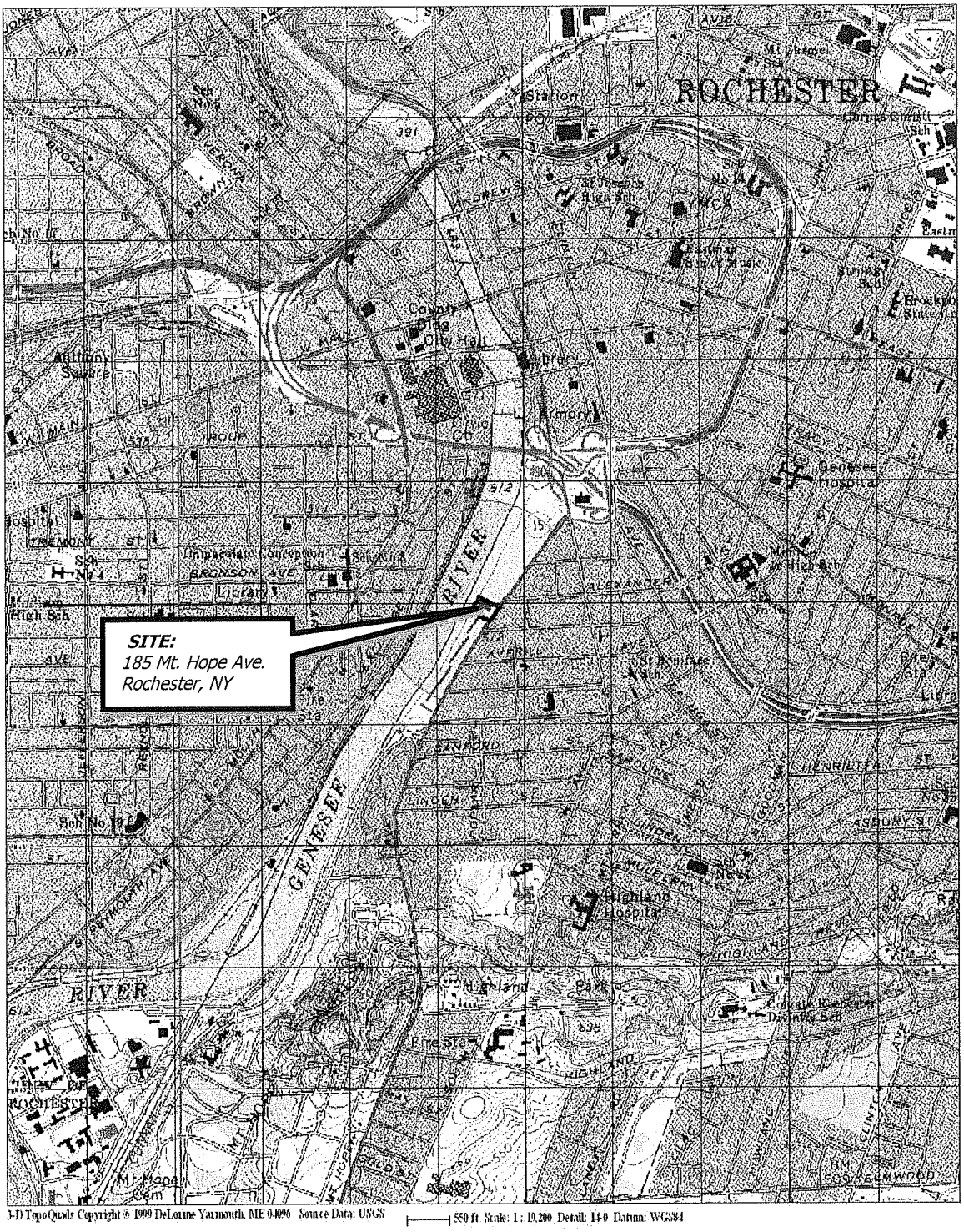
Phase II Report Environmental Site Assessment of River Park Commons Apartment Complex, Rochester, New York; June 2003; URS Corporation.

9.0. ACRONYMS

ACM	Asbestos Containing Material
ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
BCP	Brownfield Cleanup Program
bgs	below ground surface
CLP	Contract Laboratory Protocol
COC	Chain Of Custody
CPP	Citizen Participation Plan
DAY	Day Environmental, Inc.
DER	Division of Environmental Remediation
DNAPL	Dense Non-Aqueous Phase Liquid
DRO	Diesel Range Organics
DUSR	Data Usability Summary Report
ELAP	Environmental Laboratory Approval Program
GRO	Gasoline Range Organics
HASP	Health And Safety Plan
IRM	Interim Remedial Measure
LNAPL	Light Non-Aqueous Phase Liquid
MCDOH	Monroe County Department of Health
Mitkem	Mitkem Corporation
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NTU	Nephelometric Turbidity Unit
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O_2/LEL	Oxygen/Lower Explosive Limit
PBS	Petroleum Bulk Storage
Phase I ESA	Phase I Environmental Site Assessment
PID	Photoionization Detector
PPE	Personal Protective Equipment
PQL	Practical Quantitation Limit
PVC	Polyvinyl Chloride
QAO	Quality Assurance Officer
QA/QC	Quality Assurance/Quality Control
REC	Recognized Environmental Condition
RI/RAA	Remedial Investigation/Remedial Alternatives Analysis
SACM	Suspect Asbestos Containing Material
SCG	Standard, Criteria and Guidance
SPOTS	Spill Prevention and Operations Technology Series
STARS	Spill technology and remediation Series
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
TPH	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UV	Ultraviolet
VOC	Volatile Organic Compound

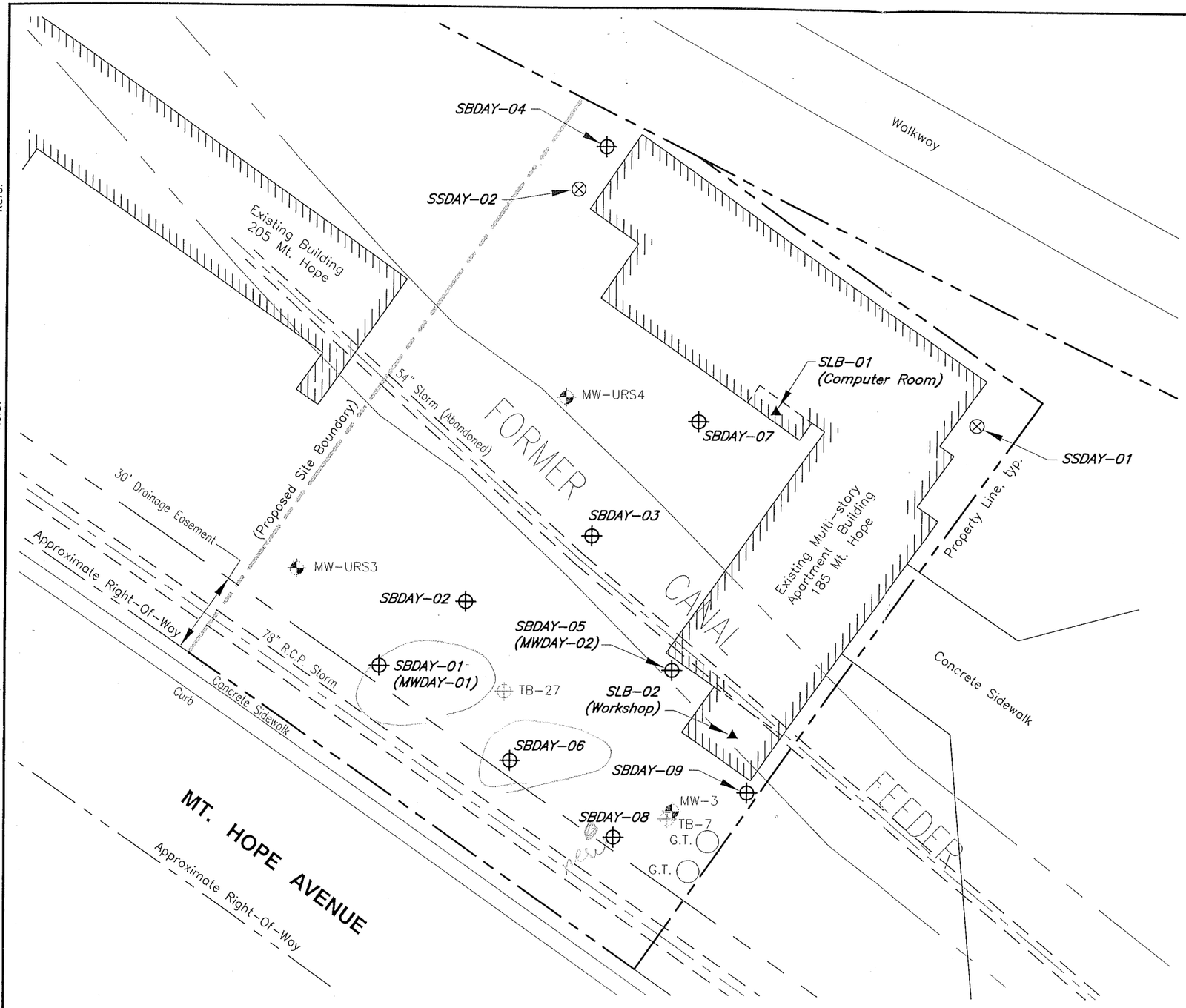
APPENDIX A

Figures



Drawing Produced From: 3-D TopoQuads, DeLorme Map Co., referencing USGS quad maps Rochester East (NY) 1995 and Rochester West (NY) 1995. Site Lat/Long: N43d-8.75' – W77d-36.62'

DATE 07-06-2004 DRAWN BY LRP SCALE 1" = 2000'	day DAY ENVIRONMENTAL, INC. ENVIRONMENTAL CONSULTANTS ROCHESTER, NEW YORK 14623-2700	PROJECT TITLE 185 MT. HOPE AVENUE ROCHESTER, NEW YORK BROWNFIELD CLEANUP PROGRAM DRAWING TITLE PROJECT LOCUS MAP	PROJECT NO. 3501S-04 FIGURE 1



Site Plan
1"= 40'

LEGEND:

SBDAY–02 ⊕	Proposed Test Boring Location
SBDAY–01 (MWDAY–01) ⊕	Proposed Test Boring\Monitoring Well Location
SSDAY–02 ⊗	Proposed Surface Soil Sample Location
SLB–01 ▲	Proposed Soil Gas Survey Location
MW–3	Approximate Location of Existing Monitoring Well
TB–7	Approximate Location of Existing Test Boring
G.T. ◯	Suspect Gas Tank Location based on historic Sanborn map interpretation

NOTES:

1. This drawing was adapted from a drawing by the City of Rochester, DCD–Housing & Project Development, titled "River Park Commons" dated August 28, 2000, untitled partial utitility plan from Conifer Reality and from an instrument survey performed by James M. Parker, Land Surveyor, on September 13, 2000. No boundary survey was performed.

2. Former site features were located using Sanborn Maps provided by Environmental Risk Information & Imagaing Services, map no. 49S, 138, 141, 151, 431, 432 and 486, for years dated 1892, 1912, 1938, 1950, and 1071. Locations of former site features transferred to this figure by using swing ties and right angle distances in relation to nearby street corners. It is possible that historic street corners vary from existing street corners, etc. Locations of former site features should be considered approximate.

3. Location of 54" abandoned storm sewer from an as–built drawing by Teetor–Dobbins P.C., tiltled "Relocation Of Storm Drain Plan & Profile Sheet 2 of 3", drawing No. 2, dated June 1973. Accuracy of location should be to the degree implied by the meathod used.

FIELD VERIFIED BY	STF
DATE	07-2004
DRAWN BY	LRP
DATE DRAWN	08-03-2004
SCALE	As Noted
DATE ISSUED	

day
DAY ENVIRONMENTAL, INC.
ENVIRONMENTAL CONSULTANTS
ROCHESTER, NEW YORK 14614-1008
NEW YORK, NEW YORK 10165-1617

PROJECT TITLE
185 MT. HOPE AVENUE
ROCHESTER, NEW YORK

BROWNFIELD STUDY

DRAWING TITLE
Test Boring, Monitoring Well, Surface Soil Sample, Soil Gas Survey Location Plan

PROJECT NO.
3501S-04

FIGURE 2

Ref1: Base–1.dwg
Ref2:
Ref3:
Ref4:
Ref5:
Ref6:

y ‹432AnsiB–2; 11 x 17
Layout Name: Layout 1

Time Plotted: Wed Aug 25 07:41 2004
File Name: Brownfield\3501\Figure–2.dwg

APPENDIX B

Table 1 - Analytical Laboratory Testing Program

Table 1 (Analytical Laboratory Testing Program)
Work Plan dated July 2004

Remedial Investigation Work Plan
185 Mount Hope Avenue
Rochester, New York

Task	Sample Matrix	Parameter	Field Samples	Trip Blanks	MS/MSD	Field Blanks	Analytical Methods	Reporting Levels
3.1 (Surface Soil Evaluation)	Surface Soil	Full TCL/TAL	2	0	0	0	2000 ASP CLP OLM04.2 & ILM04.1	ASP-B
3.2 (Subssurface Soil and Groundwater Evaluation)	Soil	Full TCL/TAL	2	0	2	1	2000 ASP CLP OLM04.2 & ILM04.1	ASP-B
		TCL VOC & SVOC	8	0	0	0	2000 ASP CLP OLM04.2	ASP-B
	Water	Full TCL/TAL	5	2**	2	1	2000 ASP CLP OLM04.2 & ILM04.1	ASP-B
	NAPL	Full TCL/TAL	1 per each NAPL found	0	0	0	2000 ASP CLP OLM04.2 & ILM04.1	ASP-B
3.3 (Sub-Slab Soil Gas Evaluation)	Air	VOC	5	0	0	0	TO-15	PQL

** = Trip blank will only be analyzed for TCL VOCs

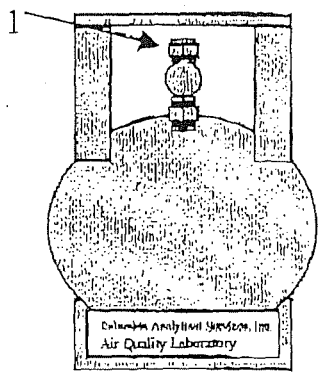
APPENDIX C

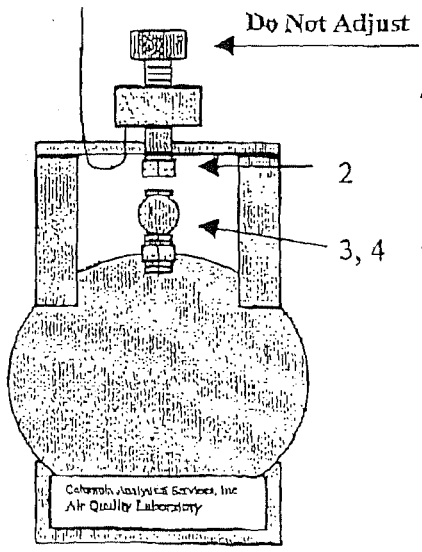
Summa Canister Air Sampling and Analysis Information

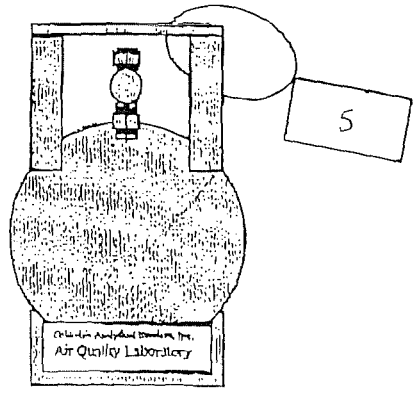
DRAFT

Columbia Analytical Services, Inc.
Air Quality Laboratory
An Employee Owned Company

Summa Canister Instructions
How to Take a Time Integrated Sample







1. Using a 9/16" wrench, remove the brass cap above the valve on top of the Summa Canister.

2. Attach the flow controller to the top of the canister. Tighten down with your fingers first, then tighten gently with 9/16" wrench. The flow controller has been precisely calibrated at CAS for your project.
Do not change the setting of the black knob at the top of the flow controller.

3. Turn the green knob 1 1/4 turns counterclockwise to open the valve.
The canister was evacuated and pressure checked at CAS.
Since the flow controller restricts the air flow, you will not hear a hissing noise as air flows in.

4. At the end of the sampling period, close the valve by turning the green knob 1 1/4 turns clockwise. (do not over-tighten). Replace the brass cap. (If you have a field vacuum gauge, you can check the pressure at this time.)
The final pressure will be checked at CAS prior to analysis of the canister.

5. Identify the sample with the provided tag, and use the provided plastic tie to connect the label to the canister. Please do not make any kind of mark on the canister (whether by tape, label, or marker).

6. Complete a chain of custody form and send it with the canister to CAS.
The same boxes can be used.

- Do not remove CAS's identification label or serial number.
- A $20.00 cleaning charge will be added if the surface of the canister is marked with tape, a label, or marker.
- Do not connect to a source greater than 50 psi. (the fitting is a 1/4" male Swagelok fitting).
- User assumes all responsibility for damage or loss. In the event of loss, user will be charged full equipment value.

The rental period is ten days. Please call if your project is delayed.

If you have questions, call CAS
(805) 526-7161

ship to:
Columbia Analytical Services, Inc.
2665 Park Center Drive, Suite D
Simi Valley, CA 93065

Attn: Sample Receiving

6 liter

DRAFT

PARADIGM
Environmental Services, Inc.
179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Client:

Client Job Site:

Client Job No.: N/A

Field Location: N/A
Field ID No.: N/A

Lab Project No.:
Lab Sample No.: N/A

Sample Type: Method Blank

Date Sampled: N/A
Date Received: N/A

Compound	Result ug/m3	Reporting Limit ug/m3	Result ppb	Reporting Limit ppb
Chloromethane	ND	1.0	ND	0.48
Vinyl Chloride	ND	1.0	ND	0.39
Chloroethane	ND	1.0	ND	0.26
Bromomethane	ND	1.0	ND	0.38
Acetone	ND	1.0	ND	0.42
Trichlorofluoromethane	ND	1.0	ND	0.18
1,1-Dichloroethene	ND	1.0	ND	0.25
Methylene Chloride	ND	1.0	ND	0.29
Carbon Disulfide	ND	1.0	ND	0.32
Trichlorotrifluoroethane	ND	1.0	ND	0.13
trans-1,2-Dichloroethene	ND	1.0	ND	0.25
cis-1,2-Dichloroethene	ND	1.0	ND	0.25
1,1-Dichloroethane	ND	1.0	ND	0.25
Methyl tert-Butyl Ether	ND	1.0	ND	0.28
Vinyl Acetate	ND	1.0	ND	0.28
2-Butanone	ND	1.0	ND	0.34
Chloroform	ND	1.0	ND	0.20
1,2-Dichloroethane	ND	1.0	ND	0.25
1,1,1-Trichloroethane	ND	1.0	ND	0.18
Benzene	ND	1.0	ND	0.31
Carbon Tetrachloride	ND	1.0	ND	0.16
1,2-Dichloropropane	ND	1.0	ND	0.22
Bromodichloromethane	ND	1.0	ND	0.15
Trichloroethene	ND	1.0	ND	0.19
cis-1,3-Dichloropropene	ND	1.0	ND	0.22
4-Methyl-2-pentanone	ND	1.0	ND	0.24

ELAP ID No.:11221

Comments: TR = Detected Below Indicated Reporting Limit
ND = Not Detected
Date Analyzed: 4/25/01

Approved By: _____
Laboratory Director

File ID: 01-0939Blk

DRAFT

PARADIGM
Environmental Services, Inc.
179 Lake Avenue Rochester, New York 14608 716-647-2530 FAX 716-647-3311

Client:

Client Job Site:

Client Job No.: N/A

Field Location: N/A
Field ID No.: N/A

Lab Project No.:
Lab Sample No.: N/A

Sample Type: Method Blank

Date Sampled: N/A
Date Received: N/A

Compound	Result ug/m3	Reporting Limit ug/m3	Result ppb	Reporting Limit ppb
trans-1,3-Dichlorpropene	ND	1.0	ND	0.22
1,1,2-Trichloroethane	ND	1.0	ND	0.18
Toluene	ND	1.0	ND	0.27
Dibromochloromethane	ND	1.0	ND	0.12
2-Hexanone	ND	1.0	ND	0.24
1,2-Dibromoethane	ND	1.0	ND	0.13
Tetrachloroethene	ND	1.0	ND	0.15
Chlorobenzene	ND	1.0	ND	0.22
Ethylbenzene	ND	1.0	ND	0.23
Bromoform	ND	1.0	ND	0.10
Styrene	ND	1.0	ND	0.23
m-&p-Xylenes	ND	1.0	ND	0.23
o-Xylene	ND	1.0	ND	0.23
1,1,2,2-Tetrachloroethane	ND	1.0	ND	0.15
1,3-Dichlorobenzene	ND	1.0	ND	0.17
1,4-Dichlorobenzene	ND	1.0	ND	0.17
1,2-Dichlorobenzene	ND	1.0	ND	0.17
Naphthalene	ND	1.0	ND	0.19

ELAP ID No.:11221

Comments: TR = Detected Below Indicated Reporting Limit
ND = Not Detected
Date Analyzed: 4/25/01

Approved By: _____
Laboratory Director

File ID: [illegible]0939Blk

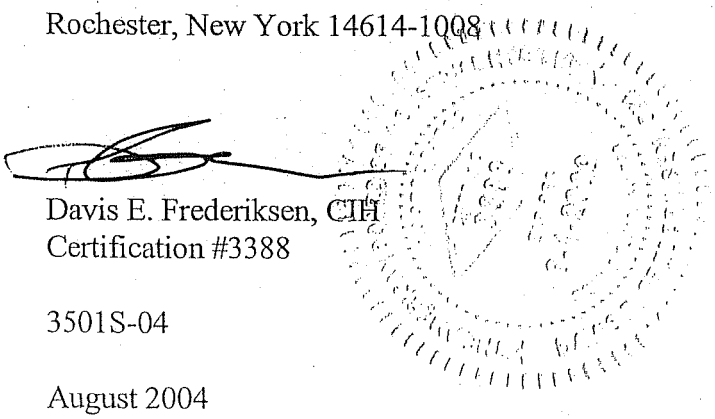
APPENDIX D

Health and Safety Plan

HEALTH AND SAFETY PLAN

BROWNFIELD CLEANUP PROGRAM
185 MOUNT HOPE AVENUE
ROCHESTER, NEW YORK

Prepared by: Day Environmental, Inc.
40 Commercial Street
Rochester, New York 14614-1008



Approved by: Davis E. Frederiksen, CIH
Certification #3388

Project No.: 3501S-04

Date: August 2004

TABLE OF CONTENTS

ATTACHMENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) outlines the policies and procedures necessary to protect workers and the public from potential environmental hazards posed during investigation under the New York State Department of Environmental Protection (NYSDEC) Brownfield Cleanup Program (BCP). The subject property is approximately 1.12 acres addressed as 185 Mount Hope Avenue, City of Rochester, County of Monroe, New York (Site). Figure 1 included as Attachment 1 depicts the general location of the Site. As outlined in this HASP, the above activities shall be conducted in a manner to minimize the probability of injury, accident, or incident occurrence.

Although the HASP focuses on the specific work activities planned for this Site, it must remain flexible due to the nature of this work. Conditions may change and unforeseen situations can arise that require deviations from the original HASP.

1.1 Site History/Overview

One residential building currently occupies the Site. The residential building, totaling approximately 413 thousand square feet, consists of a multi-level eight to twelve-story brick and concrete-block, slab-on-grade building constructed in 1975. The units primarily are one bedroom and studio apartments. Prior to the residential development in 1975, the Site's past uses included commercial, industrial, warehouse, canal, and rail yards. The Site is located in a mixed-use urban area. Commercial and residential properties bound the Site to the north and east, residential properties to the south, and the Genesee Gateway Park and the Genesee River bound the Site to the west.

Previous environmental studies have documented petroleum impacts on subsurface soil and groundwater at concentrations above NYSDEC guidance values on the northeast portion of the Site. The petroleum impacts appear attributable to historic gasoline stations on adjoining or nearby properties to the north. A recent review of historic Sanborn Maps for the years 1938 and 1950 appear to indicate that gasoline tanks associated with the former adjoining gasoline station may actually have been located on the Site.

1.2 Planned Activities Covered by HASP

This HASP is intended to be used during this NYSDEC BCP project for investigative and/or remedial activities. Currently, identified activities include:

- Electromagnetic survey;
- Advancement and sampling of test borings;
- Installation, development, sampling, and surveying of groundwater monitoring wells;
- Sub-slab soil gas monitoring; and
- Miscellaneous on-site tasks as may arise during this project.

This HASP can be modified to cover other site activities as deemed appropriate. The owner of the property, its contractors, and other site workers will be responsible for the development and/or implementation of health and safety provisions associated with normal construction activities or site activities.

2.0 KEY PERSONNEL AND MANAGEMENT

The Certified Industrial Hygienist (CIH), Project Manager (PM) and Site Safety Officer (SSO) are responsible for formulating and enforcing health and safety requirements, and implementing the HASP.

2.1 Certified Industrial Hygienist

The CIH is responsible for the contents of the HASP and ensures that the HASP complies with federal, state and local health and safety requirements. If necessary, the CIH can modify the HASP to adjust for on-site changes that affect safety. The CIH will coordinate with the SSO on modifications to the HASP and will be available for consultation when required. The CIH will not necessarily be on-site during the field activities.

2.2 Project Manager

The PM has the overall responsibility for the project and will coordinate with the SSO to ensure that the goals of the investigative program are attained in a manner consistent with the HASP requirements.

2.3 Site Safety Officer

The SSO has responsibility for administering the HASP relative to site activities, and will be in the field full-time while site activities are in progress. The SSO's operational responsibilities will be monitoring, including personal and environmental monitoring, ensuring personal protective equipment maintenance, and assignment of protection levels. The SSO will be the main contact in any on-site emergency situation. The SSO will direct field activities involved with safety and be responsible for stopping work when unacceptable health or safety risks exist. The SSO is responsible for ensuring that on-site personnel understand and comply with safety requirements.

2.4 Employee Safety Responsibility

Each employee is responsible for personal safety as well as the safety of others in the area. The employee will use the equipment provided in a safe and responsible manner as directed by the SSO.

2.5 OSHA Records

Required records are maintained at the Day Environmental, Inc. (DAY) office in Rochester, New York.

2.6 Key Safety Personnel

The following individuals are anticipated to share responsibility for health and safety at the site.

Certified Industrial Hygienist	Davis Frederiksen, CIH
Project Manager	Raymond L. Kampff
Site Safety Officer	Jeffrey A. Danzinger, Chris C. Davidson or Aaron R. Farrell

3.0 SAFETY RESPONSIBILITY

Contractors, consultants, state or local agencies, or other parties, and their employees, involved with this project will be responsible for their own safety while on-site. Their employees will be required to understand the information contained in this HASP, and must follow the recommendations that are made in this document.

4.0 JOB HAZARD ANALYSIS

There are many hazards associated with investigative work on a site, and this HASP discusses some of the anticipated hazards for this Site. The hazards listed below deal specifically with those hazards associated with the management of potentially contaminated media (e.g., soil, groundwater, fill, etc.).

4.1 Chemical Hazards

Chemical substances can enter the unprotected body by inhalation, skin absorption, ingestion, or through a puncture wound (injection). A contaminant can cause damage to the point of contact or can act systemically, causing a toxic effect at a part of the body distant from the point of initial contact.

A list of selected volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals that are have been detected or are suspected to be present at the Site are presented below. This list also presents the permissible exposure limits (PELs) and levels that are considered immediately dangerous to life or health (IDLH).

CONSTITUENT	OSHA PEL	IDLH
Benzene	1 ppm	500 ppm
Toluene	200 ppm	500 ppm
Ethylbenzene	100 ppm	800 ppm
Mixed xylenes	100 ppm	900 ppm
1,2,4-Trimethylbenzene	25 ppm	NA
1,3,5-Trimethylbenzene	25 ppm	NA
Naphthalene	10 ppm	250 ppm
Fluorene	0.2 mg/m^3	NA
Anthracene	0.2 mg/m^3	NA
Fluoranthene	NA	NA
Phenanthrene	0.2 mg/m^3	NA
Pyrene	0.2 mg/m^3	NA
Benzo (b) Fluoranthene	NA	NA
Benzo (k) Fluoranthene	NA	NA
Arsenic	0.01 mg/m^3	5 mg/m^3
Barium	0.5 mg/m^3	50 mg/m^3
Cadmium	0.005 mg/m^3	9 mg/m^3
Chromium	0.5 mg/m^3	250 mg/m^3
Lead	0.05 mg/m^3	100 mg/m^3
Mercury	0.1 mg/m^3	10 mg/m^3

Notes:
PEL = OSHA Permissible Exposure Limits (TWA for 8-hour day) NA = Not Available
IDLH = Immediately Dangerous to Life or Health Concentration

The list of chemicals will be modified as deemed necessary based on test results during the site investigation.

The potential routes of exposure for these analytes and chemicals include inhalation, ingestion, skin absorption and skin/eye contact. The potential for exposure through any one of these routes will depend on the activity conducted. The most likely routes of exposure for the activities that are performed during investigation of the Site include inhalation and skin contact.

If visible dust is observed during investigation or remediation activities, then dust suppression will be implemented.

4.2 Physical Hazards

There are physical hazards associated with this project, which might compound the chemical hazards. Hazard identification, training, adherence to the planned investigation or remedial measures, and careful housekeeping can prevent many problems or accidents arising from physical hazards. Potential physical hazards associated with this project and suggested preventative measures include:

- Slip/Trip/Fall Hazards - Some areas may have wet surfaces that will greatly increase the possibility of inadvertent slips. Caution must be exercised when using steps and stairs due to slippery surfaces in conjunction with the fall hazard. Good housekeeping practices are essential to minimize the trip hazards.

- Small Quantity Flammable Liquids - Small quantities of flammable liquids will be stored in "safety" cans and labeled according to contents.

- Electrical Hazards - Electrical devices and equipment shall be de-energized prior to working near them. All extension cords will be kept out of water, protected from crushing, and inspected regularly to ensure structural integrity. Temporary electrical circuits will be protected with ground fault circuit interrupters. Only qualified electricians are authorized to work on electrical circuits. Heavy equipment (e.g., backhoe, drill rig) shall not be operated within 10 feet of high voltage lines, unless proper protection from the high voltage lines is provided by the appropriate utility company.

- Noise - Work around large equipment often creates excessive noise. The effects of noise can include:

  - Workers being startled, annoyed, or distracted.

  - Physical damage to the ear resulting in pain, or temporary and/or permanent hearing loss.

  - Communication interference that may increase potential hazards due to the inability to warn of danger and proper safety precautions to be taken.

Proper hearing protection will be worn as deemed necessary. In general, feasible administrative or engineering controls shall be utilized when on-site personnel are subjected to noise exceeding an 8-hour time weighted average (TWA) sound level of 90 dBA (decibels on the A-weighted scale). In addition, whenever employee noise exposures equal or exceed an 8-hour TWA sound level of 85 dBA, employers shall administer a continuing, effective hearing conservation program as described in the Occupational Safety and Health Administration (OSHA) Regulation 29 CFR Part 1910.95.

- Heavy Equipment - Each morning before start-up, heavy equipment will be inspected to ensure safety equipment and devices are operational and ready for immediate use.

- Subsurface and Overhead Hazards - Before any excavation activity, efforts will be made to determine whether underground utilities and potential overhead hazards will be encountered. Underground utility clearance must be obtained prior to subsurface work.

4.3 Environmental Hazards

Environmental factors such as weather, wild animals, insects, and irritant plants can pose a hazard when performing outdoor tasks. The SSO shall make every reasonable effort to alleviate these hazards should they arise.

4.3.1 Heat Stress

The combination of warm ambient temperature and protective clothing increases the potential for heat stress. In particular:

- Heat rash
- Heat cramps
- Heat exhaustion
- Heat stroke

Site workers will be encouraged to increase consumption of water or electrolyte-containing beverages such as Gatorade® when the potential for heat stress exists. In addition, workers are encouraged to take rests whenever they feel any adverse effects that may be heat-related. The frequency of breaks may need to be increased upon worker recommendation to the SSO.

4.3.2 Exposure to Cold

With outdoor work in the winter months, the potential exists for hypothermia and frostbite. Protective clothing greatly reduces the possibility of hypothermia in workers. However, personnel will be instructed to wear warm clothing and to stop work to obtain more clothing if they become too cold. Employees will also be advised to change into dry clothes if their clothing becomes wet from perspiration or from exposure to precipitation.

5.0 SITE CONTROLS

To prevent migration of contamination caused through tracking by personnel or equipment, work areas, and personal protective equipment staging/decontamination areas will be specified prior to beginning operations.

5.1 Site Zones

In the area where contaminated materials present the potential for worker exposure (work zone), personnel entering the area must wear the mandated level of protection for the area. A "transition zone" shall be established where personnel can begin and complete personal and equipment decontamination procedures. This can reduce potential off-site migration of contaminated media. Contaminated equipment or clothing will not be allowed outside the transition zone (e.g., on clean portions of the Site) unless properly containerized for disposal. Operational support facilities will be located outside the transition zone (i.e., in a "support zone"), and normal work clothing and support equipment are appropriate in this area. If possible, the support zone should be located upwind of the work zone and transition zone.

5.2 General

The following items will be requirements to protect the health and safety of workers during implementation of activities that disturb contaminated material.

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and ingestion of contamination shall not occur in the work zone and/or transition zone during disturbance of contaminated material.

- Personnel admitted in the work zone shall be properly trained in health and safety techniques and equipment usage.

- No personnel shall be admitted in the work zone without the proper safety equipment.

- Proper decontamination procedures shall be followed before leaving the Site.

6.0 PROTECTIVE EQUIPMENT

This section addresses the various levels of personal protective equipment (PPE) which are or may be required at this job site. Personnel entering the work zone and transition zone shall be trained in the use of the anticipated PPE to be utilized.

6.1 Anticipated Protection Levels

TASK	PROTECTION LEVEL	COMMENTS/MODIFICATIONS
Site mobilization	D	
Site prep/construction of engineering controls	D	
Extrusive work (e.g., surveying, etc.)	D	
Intrusive work (e.g., advancement of test borings and wells, etc.)	C/Modified D/D	Based on air monitoring, and SSO discretion
Support zone	D	
Site breakdown and demobilization	D	

If visible dust is observed during investigative or remedial activities, then dust suppression will be implemented.

It is anticipated that work conducted as part of this project will be performed in Level D or modified Level D PPE. If conditions are encountered that require higher levels of PPE (e.g., Level C, B, or A), the work will immediately be stopped. The appropriate government agencies (e.g., NYSDEC, New York State Department of Health [NYSDOH], etc.) will be notified and the proper health and safety measures will be implemented (e.g., develop and implement engineering controls, upgrade in PPE, etc.).

6.2 Protection Level Descriptions

This section lists the minimum requirements for each protection level. Modifications to these requirements can be made upon approval of the SSO. If Level A, Level B, and/or Level C PPE is required, Site personnel that enter the work zone and/or transition zone must be properly trained and certified in the use of those levels of PPE.

6.2.1 Level D

Level D consists of the following:

- Safety glasses
- Hard hat when working with heavy equipment
- Steel-toed work boots
- Protective gloves during sampling or handling of potentially contaminated media
- Work clothing as prescribed by weather

6.2.2 Modified Level D

Modified Level D consists of the following:

- Safety glasses with side shields
- Hard hat
- Steel-toed work boots
- Work gloves
- Outer protective wear, such as Tyvek coverall [Tyveks (Sarans) and polyvinyl chloride (PVC) acid gear will be required when workers have a potential to be exposed to impacted liquids or impacted particulates].

6.2.3 Level C

Level C consists of the following:

- Air-purifying respirator with appropriate cartridges
- Outer protective wear, such as Tyvek coverall [Tyveks (Sarans) and PVC acid gear will be required when workers have a potential to be exposed to impacted liquids or particulates].
- Hard hat
- Steel-toed work boots
- Nitrile, neoprene, or PVC overboots, if appropriate
- Nitrile, neoprene, or PVC gloves, if appropriate
- Face shield (when projectiles or splashes pose a hazard)

6.2.4 Level B

Level B protection consists of the items required for Level C protection with the exception that an air-supplied respirator is used in place of the air-purifying respirator. Level B PPE is not anticipated to be required during this project. If the need for level B PPE becomes evident, all site activities will be ceased until site conditions are further evaluated, and any necessary modifications to the HASP have been approved by the PM, CIH or SSO. Subsequently, the appropriate safety measures (including Level B PPE) must be implemented prior to commencing site activities.

6.2.5 Level A

Level A protection consists of the items required for Level B protection with the addition of a fully-encapsulating, vapor-proof suit capable of maintaining positive pressure. Level A PPE is not anticipated to be required during this project. If the need for level A PPE becomes evident, all site activities will be ceased until site conditions are further evaluated, and any necessary modifications to the HASP have been approved by the PM, CIH or SSO. Subsequently, the appropriate safety measures (including Level A PPE) must be implemented prior to commencing site activities.

6.3 Respiratory Protection

Any respirator used will meet the requirements of the OSHA 29 CFR 1910.134. Both the respirator and cartridges specified shall be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910). Air purifying respirators shall not be worn if contaminant levels exceed designated use concentrations. The workers will wear respirators with approval for: organic vapors <1,000 parts per million (ppm); and dusts, fumes and mists with a TWA < 0.05 mg/m^3.

No personnel who have facial hair, which interferes with respirator sealing surface, will be permitted to wear a respirator and will not be permitted to work in areas requiring respirator use.

Only workers who have been certified by a physician as being physically capable of respirator usage shall be issued a respirator. Personnel unable to pass a respiratory fit test or without medical clearance for respirator use will not be permitted to enter or work in areas that require respirator protection.

7.0 DECONTAMINATION PROCEDURES

This section describes the procedures necessary to ensure that both personnel and equipment are free from contamination when they leave the work site.

7.1 Personnel Decontamination

Personnel involved with activities that involve disturbing contaminated media will follow the decontamination procedures described herein to ensure that material which workers may have contacted in the work zone and/or transition zone does not result in personal exposure and is not spread to clean areas of the Site. This sequence describes the general decontamination procedure. The specific stages can vary depending on the Site, the task, and the protection level, etc.

1. Leave work zone and go to transition zone
2. Remove soil/debris from boots and gloves
3. Remove boots
4. Remove gloves
5. Remove Tyvek suit and discard, if applicable
6. Remove and wash respirator, if applicable
7. Go to support zone

7.2 Equipment Decontamination

Contaminated equipment shall be decontaminated in the transition zone before leaving the Site. Decontamination procedures can vary depending upon the contaminant involved, but may include sweeping, wiping, scraping, hosing, or steam cleaning the exterior of the equipment. Personnel performing this task will wear the proper PPE.

7.3 Disposal

Disposable clothing will be treated as contaminated waste and be disposed of properly. Liquids (e.g., decontamination water, etc.) generated by investigation or remedial activities will be disposed of in accordance with applicable regulations.

8.0 AIR MONITORING

Air monitoring will be conducted in order to determine airborne particulate and contamination levels. This ensures that respiratory protection is adequate to protect personnel against the chemicals that are encountered and that chemical contaminants are not migrating off-site. Additional air monitoring may be conducted at the discretion of the SSO.

The following chart describes the direct reading instrumentation that will be utilized and appropriate action levels.

Monitoring Device	Action level	Response/Level of PPE
PID Volatile Organic Compound Meter	< 1 ppm in breathing zone, sustained 5 minutes	Level D
	1-25 ppm in breathing zone, sustained 5 minutes	Level C
	26-250 ppm in breathing zone, sustained 5 minutes	Level B, Stop work, evaluate the use of engineering controls
	>250 ppm in breathing zone	Level A, Stop work, evaluate the use of engineering controls
RTAM Particulate Meter	< 150 $\mu g/m^3$ over an integrated period not to exceed 15 minutes.	Continue working
	> 150 $\mu g/m^3$	Cease work, implement dust suppression, change in way work performed, etc. If levels can not be brought below 150 $\mu g/m^3$, then upgrade PPE to Level C.

8.1 Particulate Monitoring

During activities where contaminated materials may be disturbed, air monitoring will include real-time monitoring for particulates using a real-time aerosol monitor (RTAM) particulate meter at the perimeter of the work zone in accordance with the 1989 NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4031 entitled, "Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites." The TAGM uses an action level of 150 $\mu g/m^3$ (0.15 mg/m^3) over an integrated period not to exceed 15 minutes. If the action level is exceeded, or if visible dust is encountered, then work shall be discontinued until corrective actions are implemented. Corrective actions may include dust suppression, change in the way work is performed, and/or upgrade of personal protective equipment, etc. Readings will be recorded and be available for review.

8.2 Volatile Organic Compound Monitoring

During activities where contaminated materials may be disturbed, a photoionization detector (PID) will be used to monitor total VOCs in the ambient air. The PID will prove useful as a direct reading instrument to aid in determining if current respiratory protection is adequate or needs to be upgraded. The SSO will take measurements before operations begin in an area to determine the amount of VOCs naturally occurring in the air. This is referred to as a background level. Levels of VOCs will periodically be measured in the air at active work sites, and at the transition zone when levels are detected above background in the work zone.

8.3 Community Air Monitoring Plan

This Community Air Monitoring Plan (CAMP) includes real-time monitoring for VOCs and particulates (i.e., dust) at the downwind perimeter of each designated work area when activities with the potential to release VOCs or dust are in progress at the Site. This CAMP is based on the NYSDOH Generic CAMP included as Appendix 1A of the NYSDEC document titled *"Draft DER-10, Technical Guidance for Site Investigation and Remediation"* dated December 2002. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air. Reliance on the CAMP should not preclude simple, common sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Continuous monitoring will be conducted during ground intrusive activities. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, advancement/installation of test borings or monitoring wells, etc.

Periodic monitoring for VOCs will be conducted during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

8.3.1 VOC Monitoring, Response Levels, and Actions

VOCs must be monitored at the downwind perimeter of the immediate work area (i.e., the work zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish

background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities must be temporarily halted and monitoring must be continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source or vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less (but in no case less than 20 feet), is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

The 15-minute readings must be recorded and made available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

8.3.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the work zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 $\mu g/m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

Readings must be recorded and made available for NYSDEC and NYSDOH personnel to review.

9.0 EMERGENCY RESPONSE

To provide first-line assistance to field personnel in the case of illness or injury, the following items will be made immediately available on the Site:

- First-aid kit;
- Portable emergency eye wash; and
- Supply of clean water.

9.1 Emergency Telephone Numbers

The following telephone numbers are listed in case there is an emergency at the Site:

Fire/Police Department:	911
Poison Control Center:	(800) 222-1222
NYSDEC	
Kelly Cloyd	(585) 226-5351
Spills	(585) 226-2466
NYSDOH	
Debbie McNaughton	(585) 423-8069
MCDOH	
Richard Elliot, P.E.	(585) 724-6067
Joe Albert	(585) 274-6904
After Hours	(585) 529-0756
CONIFER HAMILTON LLC	
Allen Handelman	(585) 324-0512
DAY ENVIRONMENTAL, INC.	
Jeff Danzinger	(585) 454-0210 x114
Ray Kampff	(585) 454-0210 x108
Nearest Hospital	Highland Hospital 1000 South Avenue Rochester, NY 14620 (585) 473-2200 (Main) (585) 341-6880 (Emergency Department)
Directions to the Hospital (refer Figure 1):	Turn right (southwest) onto NY-15/Mount Hope Avenue travel approximately <0.1 miles. Turn left (east) onto Hamilton Street and travel approximately 0.3 miles. Turn right (south) onto South Avenue and travel approximately 0.7 miles. Turn left (east) into Highland Hospital and follow signs to the Emergency Department.

9.2 Evacuation

A log of each individual entering and leaving the Site will be kept for emergency accounting practices. Although unlikely, it is possible that a site emergency could require evacuating all personnel from the site. If required, the SSO will give the appropriate signal for site evacuation (i.e., hand signals, alarms, etc.).

All personnel shall exit the site and shall congregate in an area designated by the SSO. The SSO shall ensure that all personnel are accounted for. If someone is missing, the SSO will alert emergency personnel. The appropriate government agencies will be notified as soon as possible regarding the evacuation, and any necessary measures that may be required to mitigate the reason for the evacuation.

9.3 Medical Emergency

In the event of a medical emergency involving illness or injury to one of the on-site personnel, the site should be shut-down and immediately secured. The appropriate government agencies should be notified immediately. The area in which the injury or illness occurred shall not be entered until the cause of the illness or injury is known. The nature of injury or illness shall be assessed. If the victim appears to be critically injured, administer first aid and/or cardio-pulmonary resuscitation (CPR) as needed. Instantaneous real-time air monitoring shall be done in accordance with air monitoring outlined in Section 8.0 of this HASP.

9.4 Contamination Emergency

It is unlikely that a contamination emergency will occur; however, if such a emergency does occur, the Site shall be shut-down and immediately secured. If an emergency rescue is needed, notify Police, Fire Department and Emergency Medical Service (EMS) Units immediately. Advise them of the situation and request an expedient response. The appropriate government agencies shall be notified immediately. The area in which the contamination occurred shall not be entered until the arrival of trained personnel who are properly equipped with the appropriate PPE and monitoring instrumentation as outlined in Section 8.0 of this HASP.

9.5 Fire Emergency

In the event of a fire on-site, the Site shall be shut-down and immediately secured. The area in which the fire occurred shall not be entered until the cause can be determined. All non-essential site personnel shall be evacuated from the site to a safe, secure area. Notify the Fire Department immediately. Advise the Fire Department of the situation and the identification of any hazardous materials involved. The appropriate government agencies shall be notified as soon as possible.

The four classes of fire along with their constituents are as follows:

Class A:	Wood, cloth, paper, rubber, many plastics, and ordinary combustible materials.
Class B:	Flammable liquids, gases and greases.

Class C: Energized electrical equipment.
Class D: Combustible metals such as magnesium, titanium, sodium, potassium.

Small fires on-site may be actively extinguished; however, extreme care shall be taken while in this operation. All approaches to the fire shall be done from the upwind side if possible. Distance from on-site personnel to the fire shall be close enough to ensure proper application of the extinguishing material, but far enough away to ensure that the personnel are safe. The proper extinguisher shall be utilized for the Class(s) of fire present on the site. If possible, the fuel source shall be cut off or separated from the fire. Care must be taken when performing operations involving the shut-off values and manifolds, if present.

Examples of proper extinguishing agent as follows:

Class A: Water
Water with 1% AFFF Foam (Wet Water)
Water with 6% AFFF or Fluorprotein Foam
ABC Dry Chemical

Class B: ABC Dry Chemical
Purple K
Carbon Dioxide
Water with 6% AFFF Foam

Class C: ABC Dry Chemical
Carbon Dioxide

Class D: Metal-X Dry Powder

No attempt shall be made against large fires. These shall be handled by the Fire Department.

9.6 Spill or Air Release

In the event of spills or air releases of hazardous materials on-site, the Site shall be shut-down and immediately secured. The area in which the spills or releases occurred shall not be entered until the cause can be determined and site safety can be evaluated. All non-essential site personnel shall be evacuated from the Site to a safe and secure area. The appropriate government agencies shall be notified as soon as possible. The spilled or released materials shall be immediately identified and appropriate containment measures shall be implemented, if possible. Real-time air monitoring shall be implemented as outlined in Section 8.0 of this HASP. If the materials are unknown, Level B protection is mandatory. Samples of the materials shall be acquired to facilitate identification.

9.7 Locating Containerized Waste and/or Underground Storage Tanks

In the event that unanticipated containerized waste (e.g., drums) and/or underground storage tanks (USTs) are located during investigation activities, the Site shall be shutdown and immediately secured. The area where unanticipated containerized wastes and/or tanks are discovered shall not

be entered until site safety can be evaluated. All non-essential Site personnel shall be evacuated from the Site to a safe and secure area. The appropriate government agencies shall be notified as soon as possible. The SSO shall monitor the area as outlined in Section 8.0 of this HASP.

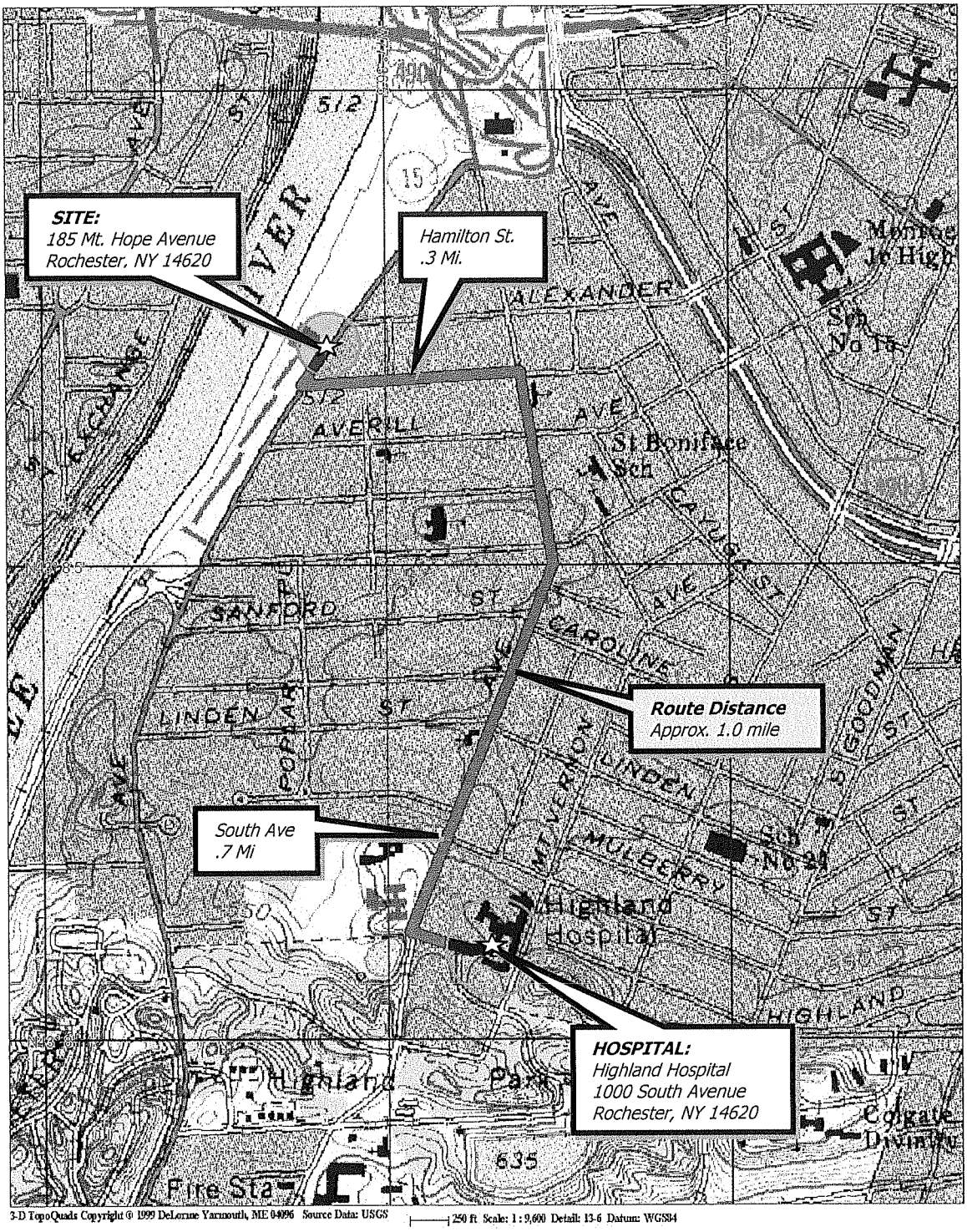
Prior to any handling, unanticipated containers will be visually assessed by the SSO to gain as much information as possible about their contents. As a precautionary measure, personnel shall assume that unlabelled containers and/or tanks contain hazardous materials until their contents are characterized. To the extent possible based upon the nature of the containers encountered, actions may be taken to stabilize the area and prevent migration (e.g., placement of berms, etc.). Subsequent to initial visual assessment and any required stabilization, properly trained personnel will sample, test, remove, and dispose of any containers and/or tanks, and their contents. After visual assessment and air monitoring, if the material remains unknown, Level B protection is mandatory.

10.0 ABBREVIATIONS

BCP	Brownfield Cleanup Program
CAMP	Community Air Monitoring Program
CIH	Certified Industrial Hygienist
CPR	Cardio-Pulmonary Resuscitation
DAY	Day Environmental, Inc.
dBA	Decibels on the A-Weighted Scale
EMS	Emergency Medical Service
HASP	Health and Safety Plan
IDLH	Immediately Dangerous to Life or Heath
MCDOH	Monroe County Department of Health
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PID	Photoionization Detector
PM	Project Manager
PM-10	Particulate mater less than 10 micrometers in diameter
PPE	Personal Protection Equipment
ppm	Parts Per Million
PVC	Polyvinyl Chloride
RTAM	Real-Time Aerosol Monitor
SSO	Site Safety Officer
SVOC	Semi-Volatile Organic Compound
TAGM	Technical and Administrative Guidance Memorandum
TWA	Time-Weighted Average
$\mu g/m^3$	Micrograms Per Meter Cubed
UST	Underground Storage Tank
VOC	Volatile Organic Compound

ATTACHMENT 1

Figure 1- Route for Emergency Services



Drawing Produced From: 3-D TopoQuads, DeLorme Map Co., referencing USGS quad maps Rochester East (NY) 1995.

DATE 07-12-2004 DRAWN BY LRP SCALE As Noted	day DAY ENVIRONMENTAL, INC. ENVIRONMENTAL CONSULTANTS ROCHESTER, NEW YORK 14614-1008	PROJECT TITLE 185 MOUNT HOPE AVENUE ROCHESTER, NEW YORK HEALTH AND SAFETY PLAN DRAWING TITLE ROUTE FOR EMERGENCY SERVICES	PROJECT NO. 3501S-04 FIGURE 1