REMEDIAL WORK PLAN

NYSDEC – 1996 CLEAN WATER/CLEAN AIR BOND ACT
ENVIRONMENTAL RESTORATION PROJECT – TITLE 5

FORMER RETAIL GASOLINE STATION
1200 EAST MAIN STREET, ROCHESTER, NEW YORK
SITE No. B-00129-8

Prepared for:

The City of Rochester
Department of Environmental Services
City Hall Room 300-B
30 Church Street
Rochester, New York 14614

Bergmann associates

Prepared by:
Bergmann Associates
200 First Federal Plaza
28 East Main Street
Rochester, New York 14614

Revised July 27, 2009
Project No. 4453.04

TABLE OF CONTENTS

SECTION **PAGE**

TABLE OF CONTENTS (Continued)

SECTION **PAGE**

TABLE OF CONTENTS (Continued)

SECTION **PAGE**

TABLE OF CONTENTS (Continued)

SECTION **PAGE**

TABLE OF CONTENTS (Continued)

SECTION **PAGE**

TABLE OF CONTENTS (Continued)

SECTION **PAGE**

List of Tables

FIGURES

ATTACHMENTS

1.0 Introduction

The City of Rochester (City) has entered into a State Assistance Contract under the Environmental Restoration Program with the New York State Department of Environmental Conservation (NYSDEC) for the remediation of a former gasoline service station located at 1200 East Main Street in the City of Rochester, New York, Site No. B-00129-8. The subject parcel and adjacent properties are shown on Figure 1A. The USGS Rochester East, NY 7.5 minute topographic map was used to prepare Figure 1B.

Remediation activities will be conducted in accordance with the NYSDEC Environmental Restoration - Record of Decision (ROD) dated March 2006 and the provisions of the Site Investigation Remedial Alternatives Report prepared by Bergmann Associates (Bergmann) dated September 28, 2005.

Previous environmental studies at the subject parcel have indicated the presence of on-site soil and groundwater that is impacted with gasoline, diesel, kerosene and motor oil constituents at levels that exceed New York State guidelines. The existing network of monitoring wells and the local water table are shown in Figure 2.

This Remedial Work Plan (Work Plan) has been prepared to describe remedial activities to be conducted during the initial phases of site work. This Work Plan addresses remedial activities to include surface and subsurface soil removal, removal of free phase product via vacuum tanker truck and a subsequent groundwater sampling and laboratory analysis event. Sampling and analytical procedures are addressed in Section 5, Sampling and Laboratory Plan. Subsequent activities including soil vapor extraction, air sparging and bioremediation will be addressed in a separate work plan once the appropriate groundwater cleanup strategy has been developed.

Detailed information on field activities to be conduced as part of the site remediation program are described in Sections 3 and 4 of this Work Plan. Remediation activities to be conducted at this site include the following tasks:

- Development of a Remedial Design Program.
- Removal and off-site disposal of free-phase product (weathered gasoline).
- Removal and off-site disposal of contaminated soils in the source areas at the site.
- Installation of replacement groundwater monitoring /free product recovery wells.
- Installation of a treatment system for cleanup of impacted groundwater at the property.
- Continued operation and maintenance of an existing sub-slab ventilation system in the basement of the adjacent residence at 1214/1216 East Main Street.
- Collection of soil samples and groundwater samples for laboratory analysis.
- Survey and monitoring activities.
- Development of a Site Management Plan, an operation, maintenance and monitoring program and institutional controls in the form of an environmental easement.
- Periodic certification of the institutional and engineering controls.

2.0 Project Team

City of Rochester
Environmental Services
Division of Environmental Quality
Project Manager
Jane Forbes
Phone: (585) 428-7892
Cell: (585) 314-1719

NYSDEC Region 8
Division of Environmental Remediation
Project Manager
Greg MacLean
Phone: (585) 226-2466

NYSDOH
Bureau of Environmental Exposure Investigation
Public Health Specialist
Krista M. Anders
Phone: (518) 402-7860

Bergmann Associates
Project Manager
Gary Flisnik
Phone: (585) 232-5137, x 346
Cell: (585) 303-9067

Bergmann Associates
Site Remediation Program Task Leader
Edward Jones
Phone: (585) 232-5137, x 409
Cell: (585) 356-3480

Bergmann Associates
Site Safety Officer
Jim Marschner
Phone: (585) 232-5137, x 286
Cell: (585) 455-7043

Excavation Contractor
TREC Environmental
1018 Washington Street
Spencerport, New York 14559
Keith Hambley
Cell: (585) 314-6189
or Steve Stockmaster (585) 594-5545

Transportation Contractor
Riccelli Enterprises
2226 Scottsville Road
Scottsville, NY 14646
Tony Alu
Phone: (585) 538-6550
Cell: (585) 370-0031

Disposal Facility
Monroe County Mill Seat Landfill
NYSDEC Permit 8-2648-000141/1-0, Facility ID 28S31
303 Brew Road
Bergen, NY 14416
Operator: Waste Management of NY
Lynn Fitzsimmons
Phone: (716) 754-0455

Vacuum Tanker Truck Contractor
New York Environmental Technologies, Inc.
NYD986983229
230 McKee Road
Rochester, NY 14624

Steve Rinker/Amy Minster
Phone: (585) 436-5660

Free Product Disposal Facility:
Environmental Products & Services of Vt. Inc.
NYD980761191
532 State Fair Blvd
Syracuse, NY 13204

Mark Watkins, Branch Manager
Phone: (315) 457-6652

Independent Data Validation
Vali-Data of Western New York, LLC
1514 Davis Rd.
West Falls, NY 14170

Jodi Zimmerman
Phone: (716) 655-6530

Analytical Laboratory
Paradigm Environmental Services
179 Lake Avenue
Rochester, NY 14608

Jane Daloia and Marshall Shannon
Phone: (585) 647-2530

ELAP # 10958

3.0 Free Product Removal via Tanker Truck

Non-aqueous free phase product, determined to be gasoline, has been confirmed in the bedrock at the southern portion of the property. Removal of free phase product is recommended as the first remedial task to be accomplished. As of June 2004 free product occurred over an area of approximately 8,200 square feet at the south and south-eastern portion of the subject parcel, in the vicinity of monitoring wells MW-3, MW-4, MW-7 and MW-9. The extent of non-aqueous free phase product is shown on Figure 3.

A vacuum tanker truck will be mobilized to the site to vacuum free product and residual groundwater from targeted monitoring wells. An anticipated two rounds of extraction will be conducted including one addressing any free product that can be recovered from open excavations following the soil excavation and removal activities. Based on recovered volumes, the mixed gasoline/water will be temporarily staged on-site, discharged to a portable 500 gallon skid-mounted tank. When the tank is full, the vacuum tanker truck can empty the tank and dispose of the load at an approved off-site recycling facility. It is unlikely that each individual vacuuming event will generate enough recovered product/groundwater to justify multiple disposal events.

A third round of removal of free product removal via tanker truck may be performed after subsequent groundwater level recovery and monitoring.

24 hours after each vacuum tanker truck event, the impacted monitoring wells will be monitored and samples will be visually observed to estimate rates of free product recovery and determine effectiveness of the tanker truck vacuuming. New York Environmental Technologies, Inc. (NYETECH) of Rochester, NY will provide vacuum tanker and product disposal services. NYETECH has previously performed similar services in the City of Rochester and their personnel have previously worked with Bergmann and City DES staff.

During excavation of soil, subsequent to free product removal, observations will be conducted for evidence of any future occurrence of unanticipated free product that may seep into excavations or may re-occur in monitoring wells. The monitoring wells will be gauged on a regular basis to check for future occurrence of free product. Should any recoverable quantities of free product accumulate in excavations or re-occur in recoverable quantities in monitoring wells, the product will be removed via vacuum extraction as necessary.

4.0 Soil Excavation and Off-Site Disposal of Contaminated Soils

Removal of contaminated surface and subsurface soil will be performed following the first round of free product removal. Excavation and removal of contaminated soils will be performed at areas are designated Area 1A and 1B (surface soil, north property line), Area 2 (former building foundation area), Area 3 (south property line) and Area 4 (former UST Pit). The goal of this task is to remove the majority of impacted soil, and to address residual soil impacts with subsequent actions. The designated areas for soil excavation are shown in Figure 4.

TREC Environmental will provide soil excavation, staging and truck loading for off-site disposal services. Bergmann personnel will screen excavated soil during excavation and coordinate on-site staging and analysis. Excavated soil with field screening analysis that indicates the excavated soil will meet NYSDEC Part 375 Soil Cleanup Objectives for on-site re-use will be stockpiled separately for further analysis and possible re-use. Personnel from TREC Environmental have previously worked at the 1200 East Main Street site and have worked on similar projects for the City of Rochester.

4.1 Surface Soil Excavation and Disposal (Areas 1A and 1B)

Areas 1A and 1B comprises approximately 111 cubic yards (1A) and 93 cubic yards (1B) of impacted surface and near-surface soil near the north property line, a total of approximately 204 cubic yards. These sub-areas are shown in Figure 4. The area 1A and 1B Area is impacted from grade to a depth of approximately 2 feet below ground surface. This area encompasses the majority of the northern, unpaved portion of the site, extending to within a few feet of the fence line. This area was delineated from results from the 2000 and 2003 test boring projects. The approximate 204 cubic yards of surface soil in Areas 1A and 1B are impacted with petroleum Semi-Volatile Organic Compounds which exceed applicable NYSDEC Part 35 Soil Cleanup Objectives. Soil to be excavated from Areas 1A and 1B are assumed to require off-site disposal.

Bergmann will coordinate the removal of surface soil from Areas 1A and 1B. Based on laboratory analysis summarized in the Site Investigation/Remedial Alternatives Report (SI/RAR), the excavated soil should be suitable for off-site disposal at a sanitary landfill as non-hazardous petroleum contaminated soil. Additional analysis on the excavated soil may be required for disposal profile/landfill acceptance purposes. Sufficient laboratory analysis will be performed on material excavated from Areas 1A and 1B to characterize for disposal profile purposes and to obtain landfill disposal approval. The analysis required for landfill disposal purposes is listed in Table 1. The analysis for disposal profile and landfill approval will not require independent data validation.

Additional off-site material will be required to adequately backfill the excavations at the subject property including Areas 1A and 1B. The City of Rochester has selected excavated soil at a project at 1315 South Plymouth Avenue in the City as the targeted source for backfill. Staged excavated material from the 1315 South Plymouth Avenue borrow pile will be sampled and analyzed in accordance with NYSDEC DER-10 guidelines, and re-use of this material for backfill at 1200 East Main Street has been tentatively approved by the NYSDEC subject to additional characterization, sampling and analysis on the borrow pile.

The 1315 South Plymouth Avenue Borrow Pile Sampling Plan is provided as Attachment of this Work Plan. Exploratory test pits will be excavated for characterization of the borrow pile and samples will be collected for laboratory analysis. Approximately 1 sample per 250 cubic yards of staged borrow pile material will be collected for analysis. The analysis will be in accordance with NYSDEC DER-10 and is summarized in Table 1. Independent data validation will be conducted on the analysis on the borrow pile samples to ensure an adequate quantity of backfill soils will be available for site restoration. Data validation and approval of the borrow pile will be completed prior to use as backfill at the 1200 East Main Street site.

Confirmatory soil samples will be collected from the residual soil at the edges of the excavation, and will be submitted for laboratory analysis. Confirmatory sampling and analysis of the excavation limits will be performed to verify that remediation goals have been achieved. Site-specific cleanup goals for on-site surface soil at areas 1A and 1B have been established for the cleanup of SVOC's, based on the Rochester background levels for carcinogenic PAHs (total cPAH of 5 PPM).

4.2 Removal of Subsurface Contaminated Soil, Beneath the Former Building Footprint (Area 2)

Area 2 encompasses an area at the eastern former building footprint, covering an area of approximately 601 square feet (67 square yards). Based on test boring GEO 1001 excavated in 2000 and Foundation Test Trench F-2 excavated in 2003, an area impacted from 3 feet to 13 feet (top of bedrock) below ground surface has been defined**.** The surface area is based on the interior building footprint in this area. Area 2 comprises an approximate total of 223 cubic yards of subsurface soil contaminated with petroleum products, PCB's, Mercury and Cadmium above NYSDEC recommended cleanup objectives.

Bergmann will coordinate the excavation and off-site disposal of approximately 223 cubic yards of contaminated soil from beneath the former building footprint. Soils excavated from the ground surface to approximately 13 feet below ground surface (anticipated bedrock interface) will be field screened for evidence of contamination via visual characteristics, texture, odor and VOCs using a photo Ionization Detector (PID) and segregated for either confirmatory sampling for possible on-site re-use or for off-site disposal. Excavated soils free of evidence of contamination (no odor, texture or staining) and exhibiting VOC readings from 10 ppm to 100 pm will be sampled and analyzed for VOCs, petroleum SVOCs and metals in accordance with NYSDEC DER-10 protocols including ASP Category B deliverable analysis. The test parameters and estimated number of samples are listed in Table 1. Analytical results will be compared to applicable NYSDEC Part 375 Soil Cleanup Objectives to determine on-site re-use. The analytical results on samples targeted for on-site re-use will be subject to independent data validation. Additional analysis on the excavated soil may be required for disposal profile/landfill acceptance purposes.

Any on-site re-use of excavated material will also require approval of the NYSDEC. Excavated material not suitable for on-site re-use will be transported off-site for disposal at an appropriate NYSDEC approved facility as contaminated solid waste. This Work Plan assumes the material

will be disposed of at the Monroe County-owned Mill Seat Landfill in Riga, NY, operated by Waste Management. An alternative facility that may be used would be the High Acres landfill in Perinton, NY. This facility is owned and operated by Waste Management and both facilities have the same disposal testing criteria and approval procedures and are approved by the NYSDEC to accept non-hazardous solid waste.

Confirmatory soil samples will be collected from soil at the sidewalls and bottom of the excavation beneath the former building foundation in a sampling frequency as per NYSDEC DER-10, and will be submitted for laboratory analysis. Confirmatory sampling will be performed to verify that remediation goals have been achieved.

Off-site clean fill from the City's 1315 South Plymouth Avenue designated borrow pile (subject to characterization, testing and approval by the NYSDEC) will be used to backfill the excavation area beneath the former building. Cleanup for VOC's and metals shall be the lower of the soil cleanup objectives for Commercial Use or Protection of groundwater (where the contaminant is present in groundwater due to release at the project site) as listed in Part 375. For cleanup of SVOC's, the Rochester background levels for carcinogenic PAHs (total cPAH of 5 PPM) will be used. The soil sampling matrix is included as Table 1 illustrating required testing parameters, sample areas and estimated sample frequencies.

4.3 Removal of Contaminated Subsurface Soil, Former Dispenser Pump & UST Pit Areas (Areas 3 and 4)

Area 3 and Area 4 are located on the southern portion of the subject parcel, and are associated with the former gasoline dispenser pumps and the former underground storage tank pit area, respectively. These areas are delineated on Figure 4.

Area 3 is located immediately south of the former dispenser pump island near the southern property line and contains approximately 237 cubic yards of contaminated soil. Based on a combination of field screening (visual observations for apparent staining, measurements of VOC's using PID, petroleum odors) combined with laboratory analysis on soil samples from from test borings installed in 2000 and 2003, a subsurface zone of contamination extends from eight feet to 13 feet below ground surface, defining a zone five feet thick. Soils from grade to thirteen feet below grade will be excavated, field screened and submitted for laboratory analysis in accordance with NYSDEC DER-10 criteria. Field screening procedures will follow protocols described in this Work Plan. Analytical results will be compared to appropriate NYSDEC Part 375 Soil Cleanup Objectives for Commercial Re-Use. Confirmatory soil samples will be collected. Sufficient sidewall and bottom residual soil samples will be collected as per DER-10 for confirmatory purposes. Excavated material that does not meet criteria for on-site re-use will be transported off-site and disposed of at the designated disposal facility.

Area 3 covers an area of approximately 1,280 square feet (142 square yards) and corresponds to the area south of the former dispenser pump, extending from the MW-3/eastern property line west to an area by MW-4, as shown on Figure 4.

Due to the property lines to the east and south, several active underground utilities (water, sewer and natural gas services), and the heavy traffic along East Main Street, not all of the impacted soil in this area may be recoverable. Should field screening of post-excavation subsurface soil samples or laboratory analysis on confirmatory sidewall or bottom samples indicate residual material does not meet Part 375 Restricted Use objectives at inaccessible areas, the impacted soil area will be measured for depth and width and its location will be recorded using a hand held global position system (GPS) unit. Protocols to mitigate future exposure to the residual contaminants will be developed and included in the Site Management Plan.

Post-excavation groundwater samples will be collected after all accessible subsurface impacted soil is removed to evaluate the effectiveness of the source removal program. In this area the primary contaminants are gasoline related VOC's. The preferred remediation option would be direct placement of Oxygen Release Compounds (ORC) or equivalent for possible enhanced bioremediation, targeted oxygen injection or air sparging associated with vapor extraction, combined with groundwater sampling and monitoring. Actual alternative procedures will depend upon the effectiveness of the source removal program.

Area 4 encompasses the former UST pit area located west of the former building footprint and consists of approximately 324 cubic yards of potentially petroleum impacted soil. The USTs from the pit were removed in June 2000 along with contaminated soil within the pit. Additional contaminated soil adjacent to the former UST pit will be excavated for off-site disposal. Area 4 encompasses an area of approximately 1,750 square feet. Based on field screening and laboratory analysis on soil samples collected during the UST removal and the subsequent test boring programs, a subsurface zone that extends from 8 feet to 13 feet below ground surface, approximately five feet thick, may be impacted with residual petroleum contamination, for an approximate volume of 324 cubic yards.

Bergmann will coordinate the excavation and field screening of approximately 237 cubic yards of contaminated soil from Area 3 and 324 cubic yards from Area 4. Field screening will include characterization for contamination via visual, odor and staining and field measurements for VOCs. During excavation, soil above the eight foot interval will be screened for evidence of contamination in accordance with the same procedures described in Section 4.2 and 4.3 (field screening for evidence of petroleum or chemical-like odors, oily texture or measurable VOC's on a Photo Ionization Detector).

Soil likely to meet the lower of the Part 375 Commercial Use or Protection of Groundwater soil clean-up objectives will be segregated and tested for on-site re-use as fill. Additional fill from the City's approved 1315 South Plymouth Ave borrow pile will be used to backfill the excavation. The laboratory analysis for material proposed for on-site re-use and off-site fill is detailed in the Sample and Laboratory Analysis Summary Matrix, Table 1.

Apparently un-impacted material, excavated from the Site will be sampled for characterization in accordance with NYSDEC criteria described in Section 5.4 (a) of DER-10 based on a minimum sample rate of one sample per each 100 cubic yards of staged excavated soil that may be acceptable for re-use as backfill at the Site. Confirmatory sampling of all potential backfill material shall be by ASP protocol with results submitted for independent data validation.

Confirmatory soil samples will be collected from excavation sidewalls and bottom from the excavation at the former dispenser pump pad area and will be submitted for laboratory analysis. Confirmatory sampling shall be conducted in conformance with Section 5.4 (a) of NYSDEC document DER-10.

Cleanup for VOC's and metals are proposed to be levels listed in Part 375 for Restricted-Use Commercial levels or for protection of groundwater (protection of groundwater levels if specific analytes have been detected in groundwater due to on-site releases). For cleanup of SVOC's, the Rochester background levels for carcinogenic PAHs (total cPAH of 5 PPM) will be used. Representative samples will be collected by Bergmann personnel using Chain-of-Custody protocol and transported to Paradigm Environmental Services of Rochester, NY for appropriate laboratory analysis as noted in Section 3.5.

It is estimated that an approximate total of 40 post excavation sidewall or bottom samples from the four targeted areas will be submitted for confirmatory analysis (8 to 10 samples per area) to confirm that established site cleanup goals have been met. Sample frequency and analytical parameters are detailed in Table 1.

It is assumed that approximately 67% of the excavated and screened soil from Areas 2, 3 and 4 will require off-site disposal. Combined with the soil removed from Areas 1A and 1B, it is estimated that a total of 681 cubic yards of contaminated soil, equivalent to approximately 1,020 tons (wet weight of 1.5 tons per yard^3), will require off-site disposal. The breakdown is thus:

The overall area of estimated contaminated soil not meeting STARS Re-Use Objectives for Off-Site Disposal (cubic yards) is as follows:

- Area 1: 156 cubic yards.
- Area 2: 149 cubic yards.
- Area 3: 159cubic yards.
- Area 4: 217 cubic yards.

Soil that does not meet NYSDEC Part 375 appropriate Cleanup Objectives will be transported off-site for disposal at the designated NYSDEC permitted disposal facility, assumed to be the Monroe County-owned Mill Seat Landfill in Riga, NY, currently operated by Waste Management. Bergmann has received tentative approval from Waste Management for the disposal of the contaminated soil at Mill Seat.

Bergmann will team with Riccelli Enterprises for the proper transportation of the non-hazardous petroleum contaminated soil. Ricelli Enterprises has a valid NYSDEC Part 364 Solid Waste Transporter permit (7A402), has existing approval to use Mill Seat Landfill and is experienced in transportation of non-hazardous waste in the City of Rochester.

Based on prior conversations with Waste Management, four representative samples of the impacted excavated soil not acceptable for on-site re-use will be required for laboratory analysis and disposal profiling purposes. Separate disposal characterization samples will be submitted for

Area 1A and 1B. Waste Management has reduced the required testing based on the 1200 East Main Street site being a virgin spill site (not previously disposed) and previous test results.

Excavated soil identified for off-site disposal will be sampled for analysis for the following parameters:

- Ignitability (Flashpoint).
- Volatile organic compounds including Benzene (at gasoline contaminated areas).
- Total Lead (gasoline contaminated areas).
- Total Metals (Areas 1 and 2).
- Total PCB's (Areas 1 and 2).

Analysis via TCLP may be required if elevated concentrations of metals are detected.

4.4 Staging, Screening and Segregation

All material excavated from the targeted areas will be screened for evidence of contamination for initial characterization. Material shall be classified as follows:

Potentially acceptable for on-site use (measurable VOC's via PID <100 PPM, no odors, no visual staining). This material will require confirmatory sampling in accordance with Section 5.4 (a) and Section 3.2 through 3.11 of DER-10.

Excavated material field screening, suspect petroleum impacted excavated material

Field Screening	**Re-Use Characterization**
0 to 100 PPM, no evidence of contamination	No analysis required
10 PPM to 100 PPM	Stage for further sampling and re-use characterization
>100 PPM or visual contamination or staining	Stage for analysis for off-site disposal

In order to document the effectiveness of a soil removal, the following sampling activities are to be performed:

1. All sampling should be conducted pursuant to DER-10 sections 3.2 through 3.11.

2. For soils, if excavation is conducted, the minimum post remediation sampling frequency should be:

i. For excavations less than 20 feet in perimeter, at least one bottom sample and one sidewall sample based in the direction of surface runoff.

ii. For excavations 20 to 300 feet in perimeter:

(1) For surface spills, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.

(2) For subsurface spills, one sample from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.

- This classification will be limited to surface or near surface material above the anticipated zones of impact in Area 1A, 1B, 3 and 4 at which only petroleum constituents are the concern.

- Not acceptable for on-site re-use, off-site disposal as non-hazardous anticipated. This material will have the presence of fuel oil-like odor, oily sheen and/or staining or measurable VOC's greater than 100 PPM, and shall be limited to material excavated from areas at which only fuel oil or diesel fuel was anticipated.

- Not acceptable for on-site re-use, off-site disposal as gasoline contaminated soil or a hazardous waste. This material would emit noticeable petroleum odors, free-phase product and/or measurable VOC's via PID readings exceeding 100 PPM. This material will be staged separately for further evaluation for handling as contaminated material that may be ignitable (flashpoint less than 100^{o} C).

PID screening of soils will be performed by designated Bergmann Associates or City DEQ personnel. The PID screening will be used to provide an initial classification and staging for further laboratory analysis and eventual disposition.

All excavated soil will be field tested with a calibrated photo-ionization detector (MiniRae® 2000 or similar) for the presence of organic vapors to aid in the determination of contaminated soil. The PID meter will be calibrated in the field at the beginning of each workday to ensure accuracy.

Field sampling protocol of contaminated soils will consist of placing suspect soils in either a sample jar or a zip lock bag (filling the jar or bag approximately 50% to 60% full). In cold weather the jar will be warmed to approximately 60 degrees F. Before the reading is taken the jar or bag will be lightly shaken to allow volatilization of organic compounds.

Those soils exhibiting a PID reading of below 100 parts per million (100 PPM) above background will be placed at the designated on-site stockpiling staging area in discrete piles, staked and labeled pending confirmatory analysis for possible re-use as backfill, or for designation for off-site disposal at the designated NYSDEC approved facility.

Soils exhibiting visual or olfactory evidence of contamination, or that register a PID reading equal to or greater than 100 parts per million (PPM) above background shall be considered as

"contaminated" and will be staged in a separate area for possible disposal as ignitable-hazardous waste. If necessary and subject to approval by the City and the NYSDEC additional measures such as ex-situ bio remediation or construction of a venting system may be needed to lower contaminant levels below ignitable levels to allow for classification and disposal as non-hazardous waste.

This work plan assumes that the majority of this material will be "hot loaded" for direct loading and transportation for off-site disposal. Should direct "hot loading" not be feasible, then this material will be staged at the temporary on-site designated staging area, but segregated from the potential on-site re-use pile.

All transport dump trucks shall have a valid 6 NYCRR Part 364 Waste Transporter Permit.

The staging area for petroleum-contaminated soils will be established at the southwestern portion of the subject property, at an area where no excavation is anticipated and at an area that will allow for truck entrance and loading. Signs will be placed to indicate staging areas for Non-Contaminated and Contaminated soils.

Prior to the stockpiling of soils in the staging area, 10-mil polyethylene sheeting will be placed on the ground surface. Care will be taken to ensure that rocks, roots or other debris is removed from the area to prevent damage to the poly sheeting. The soils will be placed on the poly sheeting, covered with 6-mil poly sheeting to prevent contact with precipitation and subsequent impacting of storm water, surface waters and groundwater. The sheeting will be secured on all edges and the area surrounding the soil pile will be sloped so as to provide positive drainage away from the stockpiled material. All excavated material shall be covered to prevent run-off and to minimize the migration of particulates.

Confirmation sampling of the excavation areas will be conducted subsequent to removal of contaminated soils. Sampling will be conducted in accordance with Section 5.0, Sampling and Laboratory Analysis Plan, and protocol listed in DER-10. Sample frequency will be as described in Section 4.4 of this Work Plan.

Discrete, individual samples will be collected from excavation side walls and individual discrete samples will be collected from the bottom of the excavation areas. Samples will be submitted to a laboratory for confirmatory analysis as per the Sampling and Laboratory Analysis Plan, ASP Category B Deliverables equivalent with results subject to independent data validation. The laboratory analysis shall include all contaminants of concern specific to the corresponding area of the site.

4.5 Pre-Disposal Laboratory Analysis for Direct Loading and Off-Site Disposal

Sampling and analysis of staged soil targeted for off-site disposal may be required for waste disposal purposes and for approval of direct "hot loading." A sample will be collected from stockpiled soils for analysis required for disposal facility approval. One composite soil sample will be collected from each of the four targeted areas (Area 1A and 1B collectively, Area 2, Area 3, and Area 4). Each composite sample will consist of a minimum of four sample points.

Each sample will be submitted to the contract analytical laboratory under standard chain of custody procedures and analyzed as follows:

- Ignitability.
- % Solids (if required by the disposal facility).
- Total VOC's (including benzene).
- Total Lead.
- Total PCB's.
- Total RCRA Heavy Metals (targeted areas of concern).

  TCLP analysis will be performed depending on concentrations of heavy metals in disposal characterization samples and if required by the disposal facility.

This work plan assumes that no additional testing other than what is listed in this work plan will be required for disposal profiling purposes and to obtain approval at designated NYSDEC approved facilities.

4.6 Off-Site Disposal of Contaminated Soil

Non-hazardous petroleum-impacted soils will be disposed of at the Monroe County Mill Seat Landfill, operated by Waste Management, NY. The transporter will have a valid 6 NYCRR Part 364 waste transporter permit. A waste manifest and a copy of the waste profile will accompany each shipment of material.

Soils determined by laboratory analysis to be hazardous waste (e.g., characteristic of ignitability or lead/benzene toxicity) will either be disposed of at a Subtitle C landfill, or treated on-site. Based on prior laboratory analysis the potential for hazardous waste is limited to soils with excess amounts of gasoline that may be ignitable (flashpoint less than 100 ^{o}C). No hazardous wastes due to heavy metals-lead or PCB's are anticipated based on testing conducted in 2000, 2003 and 2004. Excavated soils for which analysis indicates ignitable hazardous wastes will be staged separately. A contingency program of active ex-situ venting or bioremediation or other active measures as approved by the NYSDEC may be implemented to reduce the volatility of the staged soil to levels at which further analytical testing confirms that the material may be re-classified as non-hazardous and suitable for disposal at a permitted solid waste disposal facility. The actual procedures will depend upon the amount of material determined to be ignitable-hazardous waste and site conditions, such as available space, the season and temperature.

Should on-site treatment not be feasible, hazardous waste may be transported to Waste Management's CWM Chemical Services facility located at 1550 Balmer Road, Model City, New York. This work plan assumes that no soil at a regulatory hazardous waste level will require off-site disposal.

5.0 Soil Excavation Sampling and Laboratory Analysis Plan

5.1 Purpose

The purpose of this section is to summarize the procedures that will be conducted to achieve the data quality goals of the remediation program at the site. This plan is applicable to sampling, screening activities and laboratory analysis of samples to be collected in accordance with this Remedial Work Plan.

Sampling matrices, including quality assurance/quality control samples, and sampling methods are summarized in this Section.

The subcontracted laboratory that will perform the actual analysis will also submit their internal Quality Assurance Plan (QAP), with modifications to accommodate project-specific laboratory staffing, data objectives, and analytical methodologies. Quality Assurance and Quality Control procedures will be followed.

All analytical results intended for decision making, such as limits of excavation, soil re-use suitability, evaluating cleanup levels and data validation, will be subject to the QAP. Analytical results will be based on Analytical Services Protocol Category B deliverable reporting standards. Independent data validation will be performed on all ASP Category B analytical results used for decision making purposes (such as limits of excavations, achieving cleanup objectives and groundwater sampling).

The anticipated soil and groundwater samples with laboratory analysis are listed in Table 1. The following assumptions were used to prepare the sampling and laboratory analysis matrix:

1. The actual number of post-excavation, cleanup objective confirmatory samples to be analyzed will depend on the actual excavation limits as per NYSDEC DER-10 protocol.

2. Estimated total volume of soil to be excavated and screened for re-use is approximately 1,950 cubic yards. Assuming that 67% of excavated soil will require off-site disposal, approximately 650 cubic yards of soil may be suitable for on-site re-use. Approximately 1,300 cubic yards will be transported for off-site disposal. To properly backfill the site, approximately 1,300 cubic yards of soil from the City's 1315 South Plymouth Avenue borrow pile will be characterized for importation for re-use at the 1200 East Main St. site

3. This plan assumes that Analytical Services Protocol (ASP) deliverables or independent data validation will not be required for disposal profiling. Based on laboratory analysis summarized in the SI/RAR report, the soil will be disposed of at a sanitary landfill as non-hazardous contaminated soil.

4. Analysis for disposal characterization is based on criteria provided by the identified disposal facilities that will accept excavated soil. Post removal confirmatory analysis is intended to meet the objectives set forth by the Record of Decision.

TABLE 1
Sampling and Laboratory Analysis Summary Matrix

Target Area and Purpose	Post Excavation Re-Use and/ or Confirmatory Samples						Disposal Characterization			
	Soil Samples				Groundwater Samples					
Analysis Method	TAL Metals (ASP Cat B)	PCBs (ASP Cat B)	TCL/TAL SVOCs 8270 (ASP Cat B)	TCL/TAL VOCs 8260 + MTBE (ASP Cat B)	TCL/ TAL SVOCs 8270	TCL/TAL VOCs 8260 + MTBE	Total RCRA Metals	Total VOCs 8260	PCBs	Flashpoint
Area 1A							1 soil	1 soil		1 soil
Area 1B							1 soil	1 soil		1 soil
Area 2							1 soil	1 soil	1 soil	1 soil
Area 3							1 soil	1 soil		1 soil
Area 4							1 soil	1 soil		1 soil
Area 1A Post Excavation			8							
Area 1B Post Excavation			9							
Area 2 Post Excavation	5	1	5	5						
Area 3 Post Excavation				9						

TCL VOC's = Target Compound List of Volatile Organic Compounds, Expanded to include NYSDEC STARS 8021 VOC's, ASP Category B
SVOC's = NYSDEC STARS List of Semi-Volatile Organic Compounds, Method 8270. ASP Category B
TAL Metals = Target Analyte List of Metals, total concentrations, ASP Category B (Except for disposal characterization purposes)
TCLP = Toxicity Characteristic Leaching Procedure

TABLE 1 (Continued)
Sampling and Laboratory Analysis Summary Matrix

Target Area and Purpose	Post Excavation Re-Use and/ or Confirmatory Samples						Disposal Characterization			
	Soil Samples				Groundwater Samples					
Analysis Method	TAL Metals (ASP Cat B)	PCBs (ASP Cat B)	TCL/TAL SVOCs 8270 (ASP Cat B)	TCL/TAL VOCs 8260 + MTBE (ASP Cat B)	TCL/ TAL SVOCs 8270	TCL/TAL VOCs 8260 + MTBE	Total RCRA Metals	Total VOCs 8260	PCBs	Flashpoint
Area 4 Post Excavation	1		9	9						
1315 S. Plymouth Borrow Pile	6	6	6	6						
Excavated/ Screened On-Site Soils	13 - 17	13 - 17	13 - 17	13 - 17						
Initial Groundwater Sampling Event			20 (water)	20 (water)						
2nd & 3rd Groundwater Sampling Events			To be determined	To be determined	30	30				
Total # Samples	25 - 29	20 - 24	70 - 75	62 - 66	30	30	5	5	1	5

TCL VOC's = Target Compound List of Volatile Organic Compounds, Expanded to include NYSDEC STARS 8021 VOC's, ASP Category B
SVOC's = NYSDEC STARS List of Semi-Volatile Organic Compounds, Method 8270. ASP Category B
TAL Metals = Target Analyte List of Metals, total concentrations, ASP Category B (Except for disposal characterization purposes)
TCLP = Toxicity Characteristic Leaching Procedure

5.1 Soil Sampling Procedures

The methodology that will be used for collection, field screening, selection and preservation of samples as described in this Remedial Work Plan will be performed in accordance with NYSDEC procedures and guidelines.

Soil samples will be collected using pre-cleaned hand trowels. Samples shall be collected for logging and laboratory analysis in the following matter:

1. Personnel performing soil collection and characterization will wear a clean pair of disposable latex gloves or equivalent.

2. Samples to be submitted for laboratory analysis will be collected and placed into pre-cleaned sample jars provided by the analytical laboratory, labeled and placed in a cooler in accordance with this work plan.

3. Soil samples for head space screening analysis will be placed into clean glass jars with sealed lids. Representative soil samples will also be placed into pre-cleaned containers (zip-lock bags) for future screening/geologic characterization.

5.2 Soil Disposal Characterization and Initial Laboratory Analysis

Laboratory analysis will be required on samples of excavated soil targeted for off-site disposal. This analysis is intended to meet disposal criteria at the designated disposal facility, tentatively identified as the Mill Seat Landfill located in Riga, NY or the High Acres Landfill in Perinton, NY. Both of these facilities are operated by Waste Management of New York and NYSDEC permitted facilities that can accept non-hazardous solid waste. This work plan assumes that excavated soil intended for off-site disposal will be transported to either Waste Management facility. All contaminated material targeted for off-site disposal will be transported to a NYSDEC permitted facility. Should an alternate acceptable facility be proposed, the NYSDEC will be contacted for review prior to such considerations. The proposed analysis for disposal characterization will be sufficient for disposal at either of the Waste Management of New York operated facilities or at alternative facilities with appropriate NYSDEC permits.

All confirmatory sample locations shall be biased toward locations suspected of being the most contaminated based on field screening for VOC's, appearance, staining or odors.

Based on the estimated quantity of material targeted for disposal, laboratory analysis on four soil samples will be required for disposal profile approval purposes. One sample will be collected from each of the four areas targeted for soil excavation and off-site disposal. One sample will be submitted for Area 1A and 1B collectively.

For consideration of direct or "hot loading," samples of the surface soil at Area 1A and 1B will be collected prior to excavation activities to complete the analysis and obtain disposal approval. Soil samples from this area were analyzed in 2003.

A combined, composite soil sample from Area 1A and Area 1B will be collected by hand and submitted for the following analyses:

- Ignitability (flashpoint).
- % Solids, as required by the disposal facility.
- Total VOC's.
- Total RCRA metals.

Contaminants of concern above acceptable guidelines at Areas 1A and 1B are limited to petroleum SVOC's. Prior analysis did not detect PCB's at a regulatory hazardous waste level at Area 1, and therefore no additional analysis for PCB's for disposal purposes is anticipated. The disposal facility will require analysis for TCLP VOC's for acceptance purposes.

During the initial excavation of soil from Areas 1A and 1B, subsurface soil samples will be collected from Areas 2, 3 and 4 for disposal characterization. The excavation equipment used to collect the samples at these locations will be used to dig an exploratory test trench at the area assumed to have the highest levels of contaminated soil and a sample will be collected for laboratory analysis for disposal profile approval.

For disposal profile purposes, a soil sample from Area 2 will be submitted for the following laboratory analyses:

- Ignitability (flashpoint).
- % Solids, as required by the disposal facility.
- Total VOC's.
- Total RCRA Metals.
- PCB's.
- Petroleum SVOCs (if required for approval of the disposal profile).

For both Area 3 and Area 4 disposal profile approval purposes, one soil sample from each area will be submitted for the following analyses:

- Ignitability (flashpoint).
- % Solids, as required by the disposal facility.
- Total VOC's.
- Total RCRA metals.

Contaminants of concern at Areas 3 and 4 are limited to petroleum compounds and gasoline VOC's. Prior analysis did not detect PCB's at a regulatory hazardous waste level at Area 1, and therefore no additional analysis for PCB's for disposal purposes is anticipated. The disposal facility will require analysis for TCLP VOC's to for acceptance purposes.

5.3 Post-Excavation Confirmatory Sampling and Analysis

After removal of impacted soil from the targeted areas of concern, confirmatory samples of residual soil will be collected for analysis. The laboratory analysis will be specific to the

compounds of concern at each area. All analysis for decision making purposes such as post-excavation clean-up confirmation sampling shall be performed via ASP Category B deliverables with independent data validation.

5.3.1 Area 1, Northern Surface Parking Area

Area 1A comprises approximately 83 cubic yards and 1B approximately 73 cubic yards respectively of impacted surface and near-surface soil near the north property line impacted with petroleum SVOC's above the site-specific cleanup objectives applicable for the project site.

Subsequent to removal of all impacted soil and excavations, confirmatory sampling and analysis of the excavation limits will be performed to verify that remediation goals have been achieved. Cleanup levels for the surface soil are those listed in NYSDEC Part 375 for restricted-Commercial Use or for protection of groundwater, should on-site releases have impacted groundwater. For cleanup of SVOC's, the Rochester background levels for carcinogenic PAH's will be used (total cPAH of 5 PPM).

The number of confirmatory soil samples collected shall be in accordance with NYSDEC criteria listed in DER-10 and as described in Section 4.4 of this Remedial Work Plan. Samples from Areas 1A and 1B will be submitted for the following laboratory analysis:

- TCL STARS List SVOC's, EPA Method 8270.

5.3.2 Area 2, Former Service Station Building Footprint

Area 2 covers an area of approximately 601 square feet. An area of impacted soil from 3 feet to 13 feet (top of bedrock) below ground surface has been defined. Area 2 comprises an approximate total of 223 cubic yards of subsurface soil contaminated with petroleum products, PCB's, Mercury and Cadmium above NYSDEC recommended cleanup objectives. Based on prior analysis the soil excavated from this area will not meet criteria for classification as a hazardous waste.

Confirmatory soil samples will be collected from soil at the sidewalls and bottom of the excavation beneath the former building foundation, and will be submitted for laboratory analysis. Confirmatory sampling will be performed to verify that remediation goals have been achieved subsequent to excavation, source removal and off-site disposal.

The number of confirmatory soil samples collected shall be in accordance with NYSDEC criteria listed in DER-10 and Section 4.4 of this Plan. Samples from Area 2 will be submitted for the following laboratory analysis:

- STARS List VOC's, EPA Method 8260 Target Compound List expanded to included NYSDEC STARS Compounds not included in TCL.
- TCL SVOC's, EPA Method 8270.
- Target Analyte List (TAL) of metals, 8 RCRA Metals, total concentrations.
- PCB's (one sample for PCBs will be submitted from soils underlying the location of the former floor drain at the location of sample F2 collected in 2003).

5.3.3 Area 3, Former Dispenser Pump Area

Area 3 contains approximately 237 cubic yards of contaminated soil. Based on field observations from test borings installed in 2000 and 2003, a subsurface zone of contamination extends from 8 feet to 13 feet below ground surface, defining a zone five feet thick. Soil from grade to 8 feet below grade will be field screened and sampled in accordance with the procedures detailed in Section 4.4 of this Work Plan to determine if the material meets the NYSDEC Cleanup objectives for re-use onsite as backfill (Part 375 Soil Cleanup Objectives).

The identified compounds of concern at Area 3 primarily consist of gasoline VOC's with lesser amounts of petroleum SVOC's (Naphthalene). The number of confirmatory soil samples collected shall be in accordance with NYSDEC criteria in DER-10 and Section 4.4 of this Plan.

Samples from Area 3 will be submitted for the following laboratory analysis:

- STARS List VOC's, EPA Method 8260 Target Compound List expanded to included NYSDEC STARS Compounds not included in TCL.
- STARS List SVOC's, EPA Method 8270 (as required by the NYSDEC).

5.3.4 Area 4, Former UST Pit Area

Area 4 consists of approximately 324 cubic yards of petroleum contaminated soil at the former UST Pit located west for the former building footprint. The USTs from the pit were removed in June 2000 along with contaminated soil within the pit. Additional contaminated soil adjacent to the former UST pit will also be excavated for off-site disposal. Area 4 encompasses an area of approximately 1,750 square feet.

The number of confirmatory soil samples collected shall be in accordance with NYSDEC criteria listed in DER-10 and Section 4.4 of this Plan. Samples from Area 4 will be submitted for the following laboratory analysis:

- STARS List VOC's, EPA Method 8260 Target Compound List expanded to included NYSDEC STARS Compounds not included in TCL.
- STARS List SVOC's, EPA Method 8270.
- Target Analyte List (TAL) Metals including RCRA metals, total concentrations, at the location of sample TP7 collected in 2000.

5.3.5 Soil Sampling and Laboratory Analysis for Possible On-Site Reuse

During excavation, all excavated material will be screened for evidence of contamination in accordance with this the procedures described in Section 4.4 of this Work Plan including olfactory indicators of petroleum or other contaminants, oily texture and measurable VOC's via field screening with a PID. Soil meeting NYSDEC re-use guidelines will be segregated, stockpiled separately and tested for on-site re-use as fill as described in Section 4.4. Excavated material which may be potentially acceptable for on-site use (no measurable VOC's via PID, no odors, no visual staining) will consist of material previously excavated during prior test pits,

material at depths above impacted areas, and material at the extreme limits of excavations. Material excavated during prior test pits that remain at the subject property will be subject to confirmatory sampling and testing for ASP Category B deliverables with independent data validation. At least one soil sample is to be collected for characterization per 100 cubic yards of on-site soil that may be acceptable for re-use as backfill.

Off-site borrow soils from the City's 1315 South Plymouth Avenue borrow pile will be samples at a frequency of 1 sample per 250 cubic yards, in accordance with the NYSDEC approved plan dated June 3, 2009. The off-site borrow sampling plan is included as Attachment E to this Work Plan.

Laboratory analysis will be performed on material that may be suitable for on-site re-use. The analysis will be via ACP Category B deliverables with independent data validation. The analysis will include the following:

- Volatile Organic Analysis via EPA Method 8260 Target Compound List expanded to include STARS List of VOC's.
- SVOC's STARS List via Method 8270.
- TAL List of Metals.
- PCB's.

5.4 Initial Groundwater Sampling and Analysis

The initial groundwater monitoring and sampling event will occur after completion of both the final vacuum tanker truck free product recovery event and completion of the subsurface soil excavation and disposal activities. The initial groundwater monitoring and sampling event will be performed after any monitoring wells that were lost or destroyed during the soil removal program are replaced. The replacement monitoring wells shall be installed in accordance with the same accepted NYSDEC protocol that was used to install the existing monitoring wells at the subject property. The monitoring well installation procedure is provided as Attachment A.

The monitoring and sampling event will occur approximately two weeks after well installation to allow for aquifer stabilization and proper well development.

The groundwater monitoring and sampling event is intended to evaluate effectiveness of the free product removal and soil excavation programs, to determine changes in contaminant concentration levels and the size of the impacted groundwater plume.

All 14 site-related groundwater monitoring wells (nine on-site wells and five off-site wells) will be included in the gauging and sampling event. Two of the existing monitoring wells, MW-7 and MW-3 will likely be destroyed during the soil excavation and disposal program for Area 3, the Former Dispenser Pump Area. These wells will be replaced prior to the post-soil excavation and post-free product removal groundwater sampling events.

Depth to groundwater measurements will be obtained from the monitoring wells using an electronic interface probe. Depressions in the water table will be normalized to account for occurrences of free phase product.

5.4.1 Groundwater Well Purging and Sampling

The monitoring wells will be purged of standing water via low-flow pumping methodology consistent with techniques used at this site for prior sampling events. DER-10 does not require low-flow purging and sampling, but purging hall be conducted to be consistent with past practices and as appropriate at this site. A variable speed electric pump will be used to remove standing water until aquifer parameters stabilize. Parameters to be monitored during purging will include VOC's using a PID, turbidity, temperature, conductivity, pH and dissolved oxygen.

The following considerations shall be incorporated into the low-flow purging and sampling procedures for the site:

- Since measuring the depth to the bottom of the well casing will cause re-suspension of settled solids, well depths will be based on existing data including prior sampling event well development forms and well construction details.

- The low-flow pump intake shall be positioned in the middle or slightly above the middle of the estimated wetted screen interval, to be determined from the screened interval from the existing well construction details and the depth to groundwater gauged prior to sampling.

- The objective is to pump in a manner that minimizes stress to the local aquifer system as measured by minimal drawdown (ideally <0.1 meter) during purging.

- Flow rates on the order of 0.1 to 0.5 liter per minute are typically used to achieve minimal drawdown.

- Stabilization is achieved after all parameters have stabilized for three successive readings taken every three to five minutes (should not be volume-based).

- Three successive readings should be within $\pm$10% for turbidity and Dissolved Oxygen.

- The same sampling equipment and tubing should be used for sampling as was used for purging. The samples should be collected at the same flow rate used to purge the wells.

- Dedicated tubing will be used for each well to minimize the potential for cross-contamination.

- Samples will not be collected until purge water parameter values (temperature, conductivity, dissolved oxygen) have stabilized or until the well goes dry and is allowed to recover for sampling.

Following the completion of the source removal and free product recovery program, and the initial post-soil excavation groundwater monitoring, sampling and analysis event, site conditions will be re-evaluated to determine the effects of the completed soil and free product recovery programs on the original contaminant plume limits. Based on these findings, the most appropriate groundwater remedial alternative technology will be selected (such as direct oxygen injection or air sparging or spacing between injection points).

5.4.2 Groundwater Samples Laboratory Analysis

Samples from all groundwater monitoring wells, and appropriate Quality Control samples will be collected after adequate well development for laboratory analysis. For Quality Control (QC) purposes a blind duplicate sample, field rinse water/field blank sample and trip blank sample will be submitted for analysis.

This plan assumes that one round of sampling, to consist of 17 samples, will be collected for laboratory analysis. Based on prior groundwater sampling and laboratory analysis at the subject property, contaminants of concern for the groundwater regime are limited to petroleum VOC's and SVOC's.

All groundwater samples will be submitted for the following analysis:

- VOC's via EPA Method 8260, full Target Compound List expanded to include NYSDEC STARS compounds.

- Petroleum-Based SVOC's via EPA Method 8270.

If petroleum SVOC compounds are not detected in any of the groundwater samples after the initial groundwater sampling event and if the analytical results are verified via independent data validation, the City may petition the State to eliminate SVOC analysis from future groundwater sampling events.

6.0 Quality Assurance and Quality Control Procedures

6.1 Sampling Equipment Cleaning

All sampling and test equipment that will be used for multiple sample points (such as hand trowels) will be thoroughly cleaned before use at each location. For groundwater samples, this includes water-level tapes or probes, pumps, tubing, bailers, lifting line, test equipment and other equipment that will be immersed.

The procedure for equipment cleaning is as follows:

- Clean with tap water and phosphate-free laboratory grade detergent, brush if necessary.
- Rinse thoroughly with tap water.
- Rinse thoroughly with distilled water.
- Distilled water and phosphate-free detergent shall be used for equipment cleaning. No other agents (such as acetone, hexane or methyl alcohol) shall be used unless absolutely necessary and only with NYSDEC approval.
- Allow to air dry.
- Equipment cleaned prior to field use will be re-cleaned after transfer to the sampling site unless carefully wrapped for transport.

6.2 Labeling of Samples

After collection of appropriate samples, the following information shall be legibly and indelibly written on the sample labels:

1. Site name.
2. Sample date.
3. Time of collection.
4. Sample location.
5. Sample identification number.
6. Type of sample.
7. Sample collector's initials.
8. Preservatives used, if any.
9. Analysis to be performed.

Each sample shall be given a unique sample number. This system will provide a tracking number to allow for identification of the sample location and date of collection and to allow for cross-referencing of sample information.

Quality Control (QC) samples and duplicate samples will also be numbered in accordance with the numbering system.

6.3 Chain-of-Custody Procedures

After samples have been obtained, chain-of-custody procedures will be followed to establish a written record concerning sample movement between the sampling site and the testing laboratory. Each shipping container will have a chain-of-custody form completed in triplicate by the site sampling personnel preparing the samples for shipment. The chain-of-custody form for each shipping container will be completed and sealed in the container. The sampler will maintain one (1) copy of this form, and the other two (2) copies will accompany the samples. One of the laboratory copies will become a part of the permanent record for the sample and will be returned with the sample analysis, and the third copy will be maintained on file at the laboratory.

The following packaging and labeling requirements for the sample materials are appropriate for shipping the samples to the testing laboratory:

1. Place samples in a cooler.
2. Preserve samples with ice or "blue ice" type coolers. No dry ice will be used.
3. Package samples so that they do not leak, spill or vaporize from its packaging.
4. Attach completed chain-of-custody forms inside the sample shipment cooler.
5. Seal the cooler with tape.
6. Label the cooler with the following information:
    - Sample collector's name, address and telephone number
    - Laboratory name, address and telephone number
    - Description of samples
    - Quantity of samples
    - Date of Shipment

6.4 Field Equipment Calibration

Various types of field instrumentation and equipment will be used to collect and screen samples during the site investigation. This equipment may include:

- Photo Ionization Detector (PID), H NU DL 101 or equivalent, 10.6 eV lamp.
- Turbidity Meter.
- pH meter (or equivalent).
- Groundwater conductivity meter (or equivalent).
- Groundwater temperature meter (or equivalent).
- % LEL or % Oxygen meter.

Field instrumentation will be calibrated in accordance with the manufacturer's guidelines. Required calibration materials/gases will be available on-site.

A calibration worksheet will be completed as necessary prior to field work.

6.5 Record Keeping

A project-specific notebook will be maintained during all on-site fieldwork. Daily entries will be made. The entries will include:

1. Task description and date.

2. Location of work site.

3. Personnel involved, including:

    - Name
    - Function
    - Level of personal protection (any change in level of protection will be recorded at the time of implementation)

4. Health and Safety instrumentation calibration.

    - Instrument name (OVA, LEL, etc.).
    - Serial number.
    - Calibration information (i.e. calibration gas).
    - Instrument setting (OVA span set).
    - Time of calibration.

5. Meteorological information.
    - Type of day (sunny, cloudy, rain, etc.)
    - Wind speed and direction (estimate)
    - Temperature

6. Events of the day in chronological order.

7. Health and safety instrumentation readings.

8. Any unusual occurrences, problems or observations.

9. Signature of recorder.

6.6 Contract Laboratory Quality Assurance Plan

The contract Analytical Laboratory will prepare a separate Quality Assurance Plan. The laboratory will need to satisfy following requirements:

1. Listing of key laboratory staff and management listing responsibilities.
2. Procedures used to demonstrate proficiency with each analytical method.
3. Laboratory control procedures and limits.
4. Equipment calibration procedures and frequency.

Contract Laboratory Quality Assurance Plan (continued)

5. Internal quality control checks.
6. Quality control standards.
7. Performance and system audits.
8. Preventative maintenance.
9. Historical performance of the laboratory and expected project data quality.
10. Use of gas chromatography/mass spectrometry.
11. Description of method blanks.
12. Use of surrogate standards.
13. Use of duplicates.
14. Matrix spike analysis.
15. Sample storage.
16. Sample labeling and documentation.
17. Data presentation and reporting.
18. Corrective action quality assurance reporting.

6.7 Quality Control Plan

Quality Control (QC) samples will be collected for laboratory analysis to evaluate the validity and accuracy of the analytical results. The QC plan will include collection and analysis of duplicate groundwater samples, field blanks, trip blanks and matrix spike samples.

Collection and the frequency of laboratory analysis of blanks, duplicates, matrix spike and matrix spike duplicate samples will be performed in accordance with standard procedures acceptable to the NYSDEC Division of Environmental Remediation.
Analytical results on QC samples will be reported with the complete laboratory analytical reporting package.

6.7.1 Matrix Spike/Matrix Spike Duplicates Samples

A Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) will be analyzed for organic parameters, and a duplicate and matrix spike will be analyzed for inorganic parameters at a minimum frequency of one (1) sample per analytical batch. Acceptable criteria and analytes that will be used for matrix spikes are identified in the specific method protocols. The percent spike recoveries will be used to evaluate analytical accuracy while percent relative standard deviation or relative percent deviation (RPD) between duplicate analyses will be used to assess analytical precision.

This Work Plan assumes the following Matrix Spike and Matrix Spike Duplicates:

- One MS and MSD from the set of off-site (1314 South Plymouth Ave) borrow pile backfill soil samples.
- One MS and MSD from the set of post-excavation confirmatory soil samples (one MS and one MSD from the set of approximate 40 confirmatory soil samples).
- One MS and MSD from the one round of set of approximately 20 groundwater samples.

6.7.2 Field Blank Samples

Field Blanks will be defined as samples of rinse water generated during the decontamination of sampling equipment to be completed between sampling locations. Field Blanks will be collected and analyzed to verify the accuracy of decontamination procedures and to detect any cross-contamination that could be introduced during sample collection, shipping and/or analytical procedures.

One aqueous Field Blank sample will be collected from the single round of proposed groundwater sampling. No Field Blank samples will be required for the sampling of confirmatory soil samples for disposal characterization samples.

6.7.3 Trip Blank Samples

Aqueous Trip Blanks will be defined as samples prepared by the analytical laboratory and containing a known concentration of a given compound. Trip Blanks will be shipped from the contract laboratory with the provided sample containers, and will accompany the containers throughout the field sampling, labeling, shipping and analytical process.

One Trip Blank sample will be analyzed for the single groundwater sampling event to be conducted subsequent to soil excavation and free product removal program.

7.0 Health and Safety Plan

7.1 Purpose

This Health and Safety Plan (HASP) has been prepared to describe health and safety procedures and emergency response procedures to be implemented during remedial activities. This plan is intended to cover the proposed work of Bergmann Associates Employees and the community.

Detailed information on field activities to be conducted as part of the site remediation program are described in Sections 1 through 6 of this Remedial Work Plan. Remediation activities to be conducted at this site include the following tasks:

- Subsurface Investigations.
- Working with and around construction equipment.
- Collection of soil and groundwater samples that may contain hazardous materials.
- Collection, handling, containerizing and disposal of soil and groundwater that may contain hazardous materials.

Table 2 provides a Site Specific Hazard Evaluation for these tasks. Details of the methodology for these tasks are described in Sections 3 through 5 of this Work Plan for this site.

Table 3 provides a listing of potential chemical hazards that could be encountered while conducting remediation work at the subject parcel.

7.2 Health and Safety Plan Objectives

During completion of field activities at the subject parcel, personnel may come in contact with surface soils, subsurface soils and groundwater that may potentially contain hazardous petroleum substances. This HASP has been developed to address the following:

1. Site personnel are not adversely exposed to hazardous substances, chemical compounds of concern or work site hazards;

2. Public health and the environment are not adversely impacted by contaminated materials that may be encountered during field activities conducted at the subject parcel;

3. Field activities are conducted in compliance with applicable and relevant Local, State and Federal regulations and guidelines. Rules of the Occupational Safety and Health Administration (OSHA) Subpart H of Part 1910 (Title 29 Code of Federal Regulations Part 1910.120) will be implemented for all field activities at the subject parcel. Applicable guidelines of the American Conference of Governmental Industrial Hygienists, such as respiratory protection guidelines will be implemented at the subject parcel; and

4. Establishment of standard emergency response procedures to minimize the potential for any adverse impact to site workers, the general public and to the environment.

7.3 Project Responsibilities

City of Rochester Environmental Services Division of Environmental Quality Project Manager	Jane Forbes Phone: (585) 428-7892 Cell: (585) 314-1719
NYSDEC Region 8 Division of Environmental Remediation Project Manager	Greg MacLean Phone: (585) 226-2466
NYSDOH Bureau of Environmental Exposure Investigation Public Health Specialist	Krista M. Anders Phone: (518) 402-7860
Bergmann Associates Project Manager	Gary Flisnik Phone: (585) 232-5137, x346 Cell: (585) 303-9067)
Bergmann Associates Site Remediation Program Task Leader	Edward Jones Phone: (585) 232-5137, x409 Cell: (585) 356-3480
Bergmann Associates Site Safety Officer	Jim Marschner Phone: (585) 232-5137 x286 Cell: (585) 455-7043

7.4 Site Sign-Off Sheet

This plan will be used to assess the potential hazards and prepare/implement appropriate health and safety procedures to protect the health and well being of the community, employees and the environment during execution of the tasks described in the Work Plan.

Each member of the project team will sign off prior to the commencement of any work that they are in agreement with and will follow this Health and Safety Plan.

The site safety officer (SSO) assigned to the 1200 East Main Street project is Jim Marschner. The SSO has authority to stop project work at any time they feel it is necessary.

Bergmann Project Manager _____
Signature

Site Safety Officer _____
Signature

Task Leaders _____
Signature

_____
Signature

7.5 Proposed Remedial Activities

The following is a summary of elements of the selected remedy to complete the environmental restoration of the subject parcel.

- Development of a Remedial Design Program.
- Removal and off-site disposal of free-phase product (weathered gasoline) on the water table, from existing on-site, 2" diameter groundwater monitoring wells.
- Removal and off-site disposal of contaminated overburden soils in the source areas at the site.
- Installation of a system for the treatment of dissolved-phase contaminants in groundwater via direct oxygen injection or an air sparging system.
- Installation of a soil vapor extraction system to recover soil gas contaminants that are volatilized into the vadose zone by the oxygen injection or air sparging system.
- Continued operation and maintenance of an existing sub-slab ventilation system in the basement of the adjacent residence at 1214/1216 East Main Street. Operation of this system is intended to prevent site-related contaminants from entering the residential structure.
- Collection of soil samples and groundwater samples for laboratory analysis.
- Survey and monitoring activities.
- Development of a Site Management Plan to address residual compounds of concern that remain at the site and any use restrictions.
- Implementation of an operation, maintenance and monitoring program to track remedial progress and confirm its effectiveness.
- Imposition of institutional controls in the form of an environmental easement.
- Periodic certification of the institutional and engineering controls.

7.6 Emergency Response Plan

The purpose of this plan is to activate the Emergency Response Plan by calling the appropriate agency listed below. Bergmann Associates personnel will be responsible as First Responders in the event of an emergency, until professional emergency services arrive. Bergmann Associates will offer assistance and direction as required by professional emergency services.

The following is a list of Emergency Numbers and Contacts:

City of Rochester Environmental Services Office of Customer Satisfaction 945 Mt. Read Blvd. Rochester, New York 14606	(585) 428-5990
City of Rochester Fire Department Public Safety Building, 3rd Floor Rochester, New York 14614 Direct Dial number:	911 (585) 428-6739
City of Rochester Police Department Public Safety Building Rochester, New York 14614 Direct Dial number:	911 311 (non emergency) (585) 428-7070
Rochester General Hospital 1445 Portland Avenue Rochester, NY 146221	(585) 922-4000
Ambulance Service Rural Metro Medical Services 177 University Ave. Rochester, NY 14605	 (585) 546-2525
Monroe County Health Department 1111 Westfall Road Rochester, NY 14692	(585) 274-6000
NYSDEC Region 8 Division of Environmental Remediation 6274 East Avon-Lima Road Avon, New York 14414 Contact: Greg MacLean	(585) 226-2466

Figure 5 shows the route from the site to the nearest hospital.

7.7 Site Specific Hazard Evaluation

Table 2 presents listings of potential work site hazards that could be encountered at the work site, along with protective measures to be taken.

Table 3 in section 8.1.2.2 presents a listing of potential chemical hazards that could be encountered at the work site along with a listing of routes of exposure and exposure limits.

TABLE 2
Potential Work Site Hazards

Task	**Physical Hazards**	**Chemical Hazards**	**Possible Hazard Forms**	**Protective Measures**	
				Engineering	**PPE**
Soil Excavation Well Drilling Activities Soil Sampling Groundwater Sampling	Underground Utilities Overhead utilities Construction Equipment (Drill Rig, Backhoe Noise Dust Particulate Electrical Fire	Petroleum Constituents, PCBs Metals Chlorinated Solvents PCB's	Organic Constituents in Groundwater, Soil and Vapor	Obtain Utility clearance Delineate work area with fencing and caution tape Post work/warning Signs. Make use of GFCI Fire extinguisher First Aid Kit Safety training Protective barriers Monitoring and Measuring Devices	Level D to include: Safety glasses Chemical resistant gloves Ear protection Steel toe boots Hard hat Protective Clothing – Tyvek Respirator available

7.8 Site Specific Work Site Access Control

For work activities requiring Level D personal protective equipment (see Section 8.3.1), access to the work site will be controlled as appropriate by means of temporary barriers such as flagging tape or fencing. The temporary barriers will be placed in a manner such that personnel not familiar with the project will be aware that the work area is to be entered by authorized personnel only.

7.9 Site Specific Decontamination Procedures

The following presents site-specific decontamination procedures for the project. Refer to Section 6.1 for additional general information on decontamination procedures.

7.9.1 Required Equipment

- Tap water
- Liquidnox/Alconox detergent
- Plastic sheeting
- Disposal bags
- Wash tub
- Steam cleaner
- Paper Towels

7.9.2 Site Specific Procedures

For Level D work activities, decontamination at each work area will consist of cleaning up water, soil, and other debris from the work area, at an area approved by the Field Team Leader. Drilling equipment will be decontaminated by steam cleaning at a location designated by facility personnel. Drums generated during the drilling activities will be stored in an area designated by facility personnel until analytical and disposal arrangements have been made.

8.0 General Health and Safety Procedures

8.1 Air Monitoring

Air monitoring procedures discussed in this section pertain to worker protection only. Separate air monitoring requirements are provided in the Community Air Monitoring Plan (CAMP) included with this Remedial Work Plan.

8.1.1 Air Monitoring Scope

The Site Safety Officer (SSO) or Site Remediation Program Task Leader will conduct periodic air monitoring during site operations. Should any monitoring indicate concentrations in excess of established action levels (listed in Table 3), the SSO will notify Contractors/Consultants and will implement appropriate engineering actions to protect project personnel. Additional measures of protection for the community are detailed in Section 10 of this Work Plan to comply with the NYSDOH Generic Community Air Monitoring Plan included as Attachment C.

Periodic air monitoring for volatile compounds will be performed during the project activities for which inhalation has been identified as a potential exposure route. These activities include, but are not limited to work area and breathing zone monitoring during:

- Soil Excavation and Staging.
- Excavation of Trenches.
- Drilling Activities.
- Soil Sampling.

The SSO or Site Remediation Program Task Leader should make use of real time direct reading instruments.

8.1.2 Air Monitoring Locations

8.1.2.1 Personal Monitoring

Personal monitoring will take place as necessary and as determined by the SSO or Field Team Leader. In scheduling personal monitoring, consideration will be given to monitoring at times of maximum potential exposure, utilizing direct reading instruments such as a photo-ionization detector. All monitoring will be conducted using a portable meter only.

8.1.2.2 Perimeter Monitoring

Real-time air monitoring for volatile organic compounds will also be conducted on a regular basis (e.g., hourly) downwind of the work zone. If total organic vapor concentrations attributable to excavation, drilling or other activities conducted at the site, continuously exceed the most stringent permissible exposure limit (found on Table 3) for a period greater than five minutes, emission reduction activity will be attempted. If greater than 10 minutes, then work

will be halted until the concentrations of the organic compounds obtained from the air sampling are within their TLV's.

TABLE 3
Potential Chemical Hazards

CHEMICAL COMPOUNDS THAT MAY BE ENCOUNTERED	ROUTE OF EXPOSURE (SEE NOTE)	OSHA PEL (PPM) (1)	ACGIH TLV (PPM) (2)	IDLH (PPM) (4)
Benzene *	INH, ABS, CON	1	10	500
1,2,4-Trimethylbenzene	INH, ABS, ING, CON	N/R	N/R	N/R
1,3,5-Trimethylbenzene	INH, ABS, ING, CON	N/R	N/R	N/R
Toluene*	INH, ABS, CON	100	100	500
Ethylbenzene*	INH, CON	100	100	800
Xylene*	INH, CON	100	100	900
MTBE*	INH, CON	N/R	40	N/R
Petroleum Distillate	INH, ABS, ING, CON	300	300	N/R
Lead	INH, ABS, ING, CON	0.05 mg/m3	0.05 mg/m3	100 mg/m3
1,1,2-Trichloroethane	INH,ABS, CON	10	10	Ca
Trichloroethene	INH, ABS, CON	100	50	Ca
2,3-Dichloroethene	INH, ABS, CON	200	200	4000
Vinyl Chloride	INH, ABS, CON	1	5	Ca
PCB	INH, ABS, ING, CON	0.5 mg/m3	0.5 mg/m3	N/R
Methanol	INH, ABS, ING, CON	200	200	6000
Methylene Chloride	INH, ABS, ING, CON	500	100	N/R
Acetone	INH, ABS, ING, CON	1000	750	20,000

***Indicates a primary contaminant (i.e. is present in the highest concentration).**

(1) OSHA Permissible Exposure Limit: AM. Ind. Hyg. Assoc. J. (50), April 1989, 8 hr. Time Weighted Average.
(2) ACGIH TLV from Threshold Limit Values and Biological Exposure Indices for 1998 - 8 hr. TWA.
(3) Immediately dangerous to life or health: NIOSH Guide: June 1997
(4) Ca = Potential Human Carcinogen, no IDLH's are listed for these substances

NOTE:
INH = Inhalation ABS = Skin Absorption
CON = Skin or Eye Contact ING = Ingestion

Signs/Symptoms Of Overexposure: IRRITATION, GI DISTURBANCES, NAUSEA, VOMITING, DIARRHEA, EXCITATION, EUPHORIA, HEADACHE, DIZZINESS, DROWSINESS, BLURREDVISION, FATIGUE, TREMORS, CONVULSIONS, LOSS OF CONSCIOUSNESS, COMA, DEFATTING, REDNESS, ITCHING, CRACKING OF SKIN, BURNS, SWOLLEN & DISCOLOREDTISSUE, PAIN, LACRIMATION, INFLAMMATION

8.1.3 Sample Methods

8.1.3.1 Real Time Sampling

Real time monitoring will be conducted with a photo-ionization detector equipped with a10.2 eV lamp or a flame ionization detector as specified in Table 4, titled Hazard Guidelines and Action Response Levels. These instruments are capable of detecting the volatile organic chemical compounds, identified in Table 3, to an approximate lower detection limit of 1 ppm. The OSHA TLV's for the compounds listed in Table 3 are at or above the detection limit of the proposed equipment. The rapid response of these instruments allows for quick determination of airborne concentrations and therefore, subsequent changes in the safety procedures can be implemented if needed.

8.1.3.2 Integrated Sampling

The Site Safety Officer and/or Field Team Leader will determine if there is a project specific need for integrated sampling. Integrated sampling is not expected to be needed for this project.

TABLE 4
Hazard Guidelines and Action Response Levels

TYPE OF INSTRUMENT	TYPE OF HAZARD	ACTION RESPONSE LEVEL (1) Sustained	ACTION RESPONSE
OVA HNU PID (2)	Organic Vapor/Gasses (ppm)	< 5 ppm 5 ppm – 50 ppm > 50 ppm	Level D Level C Withdraw and evaluate project conditions. Evaluate engineering and hazard control methodologies.

NOTES:
1. Monitored in the breathing zone. These are general guidelines provided PPE affords adequate protection at these action levels.
2. Some inorganic species can also be ionized with this analyzer.
3. LEL - Lower explosive limit where the (scale) range is 0-100%.
4. 0_2 - Normal atmospheric oxygen concentration at sea level is approximately 20.8% oxygen by volume.

8.1.4 Air Monitoring Equipment

8.1.4.1 Direct Reading Instruments

The instruments used for air monitoring activities may include, but are not limited to, those listed below. The Site Safety Officer will make the decision as to which instruments will be used on a project specific basis.

- A flame ionization detector (FID) equal or superior to Photovac MicroFID organic vapor analyzer (OVA).

- A photo-ionization detector (PID) equal or superior to HNU 101 or Rae Systems MiniRAE-2000.

Each instrument will be intrinsically safe where warranted. Each will be calibrated and maintained in accordance with the manufacturer's recommendations. Calibration records will be maintained in a daily field logbook.

Direct Reading Instruments will be used during drilling and excavation activities.

8.1.4.2 Spare Monitoring Equipment

Appropriate spare monitoring equipment will be made available either on the Project Site or at a location in the project area, as determined by the Site Safety Officer. Field activities will be suspended if the properly calibrated field monitoring instrumentation is not available.

8.1.5 Record Keeping

A Field Logbook will be maintained by the Site Safety Officer or On Site Task Leaders. It will be updated daily. The entries will include:

- Task description and date.
- Location of work site.
- Personnel involved:
    - Name
    - Function
    - Level of personal protection (any change in level of protection will be recorded at the time of implementation)
- Health and Safety instrumentation calibration:
    - Instrument name (MicroFID, MiniRae, etc.)
        - Serial number
        - Calibration information (i.e. calibration gas)
        - Instrument setting
        - Time of calibration
    - Meteorological information.
        - Type of day (sunny, cloudy, rain, etc.)
        - Wind speed and direction (estimate)
        - Temperature
    - Events of the day in chronological order.
    - Health and safety instrumentation readings.
    - Breathing zone concentrations:
        - Time
        - Sample concentration with corresponding identification number

        - Any unusual occurrences, problems or observations
    - Signature of recorder.

8.2 Heat and Cold Stress Monitoring

8.2.1 Heat Stress

Heat stress occurs in several forms. By order of increasing severity, they are:

1. Heat Rash
2. Heat Cramps
3. Heat Exhaustion
4. Heat Stroke

The potential for a worker to develop heat stress is related to the ambient temperature, relative humidity, and the nature of the work being performed. The Site Safety Officer will provide project specific information on heat stress identification, care and prevention procedures as necessary.

8.2.2 Cold Stress

Cold stress, as well as heat stress, occurs in different forms. By order of increasing severity, they are:

1. Trench Foot
2. Frostbite
3. Hypothermia

The potential for a worker to develop cold stress is related to the ambient temperature, wind chill, protective clothing, and the nature of the work being performed. The Site Safety Officer will provide project specific information on cold stress identification, care and prevention procedures as necessary

8.3 Personal Protective Equipment

Protective clothing and respiratory protection help protect workers from chemical hazards. Although personal protective equipment is the least preferred method for health and safety protection, it may be necessary if engineering controls and work practices are inadequate in preventing workers from coming in contact with potential hazards. Personal Protective Equipment (PPE) will be selected for the potential hazards anticipated and are detailed in the site specific hazard evaluation.

Safety equipment and protective clothing will be used as directed by the Site Safety Officer. The non disposable equipment and disposable clothing will be kept clean and maintained in proper condition. Contractors and their subcontractors will be responsible for providing their personnel with the proper PPE. Bergmann Associates will only provide PPE to Bergmann

employees. The contractors and subcontractors will be responsible for training their personnel in the use of the required protective equipment and the equipment will be properly fitted.
The levels of protection to be used on-site will be based on applicable OSHA and Environmental Protection Agency (EPA) regulations, environmental sampling data, site conditions, and other factors. It will be the responsibility of the Site Safety Officer to select the most effective PPE based on the anticipated hazards of the task.

8.3.1 Levels of Protection

The following is a description of the specific requirements of various levels of PPE in conformance with EPA nomenclature.

Work in Modified Level "D" is anticipated. No work requiring PPE above Level "C" is anticipated and will not be conducted within the scope of the anticipated program.

Level D Protection

Level D is the minimum level of protection to be used during any site activities and provides no respiratory and nominal skin protection.

Level D Personnel Protective Equipment:

- Coveralls or work uniform that includes long sleeved shirt.
- Gloves.*
- Substantial leather chemical resistant boots or shoes (steel toe and shank).
- ANSI Z87 safety glasses
- Chemical splash goggles.*
- Hard hat.*
- Disposable/reusable footwear covers.*
- Hearing Protection – Ear plugs or muffs.*

  * The need for these items is dependent upon the work to be performed and will be chosen by the Site Safety Officer.

Criteria for Selection of Level D:

Meeting any of these criteria allows use of Level D protection:

- No contaminants are present or contaminant levels are substantially below action levels.

- Work functions preclude splashes, immersion, or potential for unexpected inhalation of any hazardous chemicals.

- Level D protection is a minimum work uniform. It can be worn only in areas where the possibility of contact with contamination is minimal.

Level C Protection

Level C protection with an air purifying respirator should be worn routinely in an atmosphere only after the air contaminant(s) is (are) identified, concentrations measured and the criteria for wearing air purifying respirator met. Generally, Level C provides the same level of skin protection as Level B, but a lesser degree of respiratory protection.

Level C Personal Protective Equipment:

Air purifying respirators, full face, (half face with appropriate safety glasses or goggles when potential for liquid splashes is low), P-100 canister or cartridge equipped (MSHA/NIOSH approved).

Chemical protective clothing: Chemically resistant to anticipated contaminants, e.g. Saranex or polyethylene coated Tyvek, Chemrel, or Chem Tuff.

- Gloves (outer): Chemically resistant to anticipated contaminants.

- Gloves (inner).

- Boots (outer): Chemically resistant to anticipated contaminants.

- Hard hat.*

- 2-Way radio communications* (intrinsically safe).

- Joints between gloves, boots, and suit must be taped to ensure an adequate seal.

* The need for these items is dependent upon the work to be performed and will be chosen by the Site Safety Officer.

Criteria for Selection of Level C:

Meeting all of the following criteria permits use of Level C protection:

- Oxygen concentrations not less than 19.5% or no greater than 22% by volume.

- Personnel inhalation exposure will be reduced by the respirator below the substance's Threshold Limit Value (TLV)/Permissible Exposure Limit (PEL) or XEL, whichever is lowest and the concentration is within the service limit of the canister/cartridge.

- Atmospheric contaminant concentrations do not exceed IDLH levels, (See Tables 3 and 4).

- Atmospheric contaminants, splashes, or other direct contact will not adversely affect any body area left unprotected by chemically resistant clothing.

- Job functions do not require self-contained breathing apparatus.

- Atmospheric contaminant concentrations are not in excess of Level C action criteria, (Tables 3 and 4).

8.3.2 Personal Protective Equipment (PPE) Selection

PPE selection will be based on the task and the nature of hazards (type of contaminants, duration of exposure), engineering controls and the work practices that are anticipated. The selected equipment will provide protection from the chemicals suspected to be present and which demonstrate the potential for skin exposure. The PPE chosen for each task will be specified in the site specific hazard evaluation table.

8.4 Site Controls

8.4.1 Work Site Access Control

Access to the work zone is dependent upon site-specific conditions and will be controlled by the Bergmann Associates Field Team. It will be the Field Team Leader's responsibility to control access to a site by means of temporary barriers such as flagging tape or fencing. The barrier will be inspected at each borehole for integrity and adequacy by Field Team Leader.

8.4.2 Visitors

Visitors and subcontractors at the job site are subject to the same requirements as contractor and consultant personnel and will only be permitted to observe from a safe distance, as determined by the Field Team Leader.

A visitors log will be kept by the Bergmann Associates Site Coordinator or other designated person.

8.5 Engineering Controls

8.5.1 Standard Safe Work Practices

Standard safe work practices applicable to most site activities are listed below.

1. Field personnel must inform the Site Safety Officer, On Site Task Leader or designated representative before entering work areas so that their presence can be recorded.

2. Workers must utilize the "buddy system": at least two members of the field crew (including subcontractor personnel) must be in visual contact with each other on-site whenever work is to be performed. If this is not possible, two-way radios will be used.

3. Eating, drinking, chewing gum or tobacco, smoking, or any other activity that increases the probability of hand-to-mouth transfer of contaminated material will not be permitted at the work site.

4. Personal safety equipment and protective clothing will be worn in conformance with Section 8.3 of this HASP.

5. Disposable outer coveralls, boots and gloves will be secured at the wrists and legs and there will be closure of the suit around the neck.

6. Hands must be washed before eating, drinking, and smoking and before using toilets at the facilities provided.

7. Avoid contact with surfaces either suspected or known to be contaminated, such as puddles, mud, or other discolored surfaces. Store equipment on elevated or protected surfaces to reduce the potential of incidental contamination.

8. Place all disposable coveralls, gloves, and cartridges in appropriate receptacles at the end of every shift or sooner, as directed by the Site Coordinator.

9. Inspect all non disposable clothing (i.e. hard hat liner, work gloves, cotton overalls) for contamination in the contamination reduction zone. Any clothing found to be contaminated will be decontaminated or disposed of in a manner approved by the Site Coordinator.

10. Report any injuries to the Bergmann Associates Site Safety Officer. An accident report or equivalent must be completed by the Site Safety Officer and the Project Manager to the Bergmann Safety Manager for appropriate follow-up.

11. The presence or consumption of alcoholic beverages or illicit drugs on the project property or during the workday is strictly forbidden.

12. Spillage or splashing of contaminated materials must be prevented. Spills must be contained and follow up calls made as appropriate for the release.

13. Be alert to unsafe conditions or acts and notify the Site Safety Officer.

14. Workers need to be familiar with the work area and surroundings, including:

    - Wind direction in relation to the work area;
    - Accessibility of associates, equipment, vehicles;
    - Available communications;

- Hot zone (areas of known or suspected contamination);
- Site access;
- Nearest water sources.

15. The number of personnel and equipment in the exclusion zone must be kept to a minimum.

16. Wastes generated during work activities must be disposed of in accordance with state, federal, and local regulations.

8.5.2 Utility Clearance

Utility clearance will be obtained by the sub-contracted drilling or excavation contractor from the local Underground Facilities Protective Organization / Dig Safe and the appropriate City authority before the start of any drilling or excavation conducted at the site.

Other local utility clearance can be obtained by calling the toll free hotline Dig Safely New York (formerly known as Underground Facilities Protection Organization or UFPO) at (800) 962-7962 and record the "reference number" for possible future use. Utilities in the work area should be staked at least one week prior to the start of work.

The project activities will be explained in detail to the respective utility by the excavation or drilling subcontractor.

8.6 Excavation, Trench Work and Drilling Safety

Drilling and sampling activities present several potential hazards. Minimizing these hazards requires strict adherence to safe operating procedures and best management practices conducted by the owners and operators of any and all equipment brought to the site.

8.6.1 Drilling, Excavator and Backhoe Crews

The appropriate sub-contractor (backhoe, excavation, drilling contractor) will be responsible for the safe operation of the drill rig or excavator as well as their crew's adherence to the requirements of their own site specific HASP (see Attachment B). The sub-contractor will provide their own Health and Safety Plan relative to drilling operations and excavations. The driller or excavating company will be responsible for the condition and proper use of the safety equipment. The members of the excavation or drill crew will follow the instructions of the subcontractor foreman, wear the appropriate personal protective equipment, and be aware of the hazards and applicable control procedures.

8.6.2 General Operating Procedures

To reduce noise impact on neighboring residences aesthetic value of life, all field activities, including surface soil sample collection, groundwater sampling, drilling, excavating or installations of equipment will take place between the hours of 8:00AM and 6:00PM.

The operator of the drill rig and excavating equipment will only operate from the position of the controls. If the operator must leave this position, the transmission must be in neutral.

When working on the derrick platform, the drill crew should not guide drill rods or pipe into racks by taking hold of a moving line. Materials should not be stored or transported within the derrick. Pipe, drill rods, auger flights, hammers, and other drilling tools should be stored in racks and chained in place. During drilling, penetration hammers will be placed at a safe location on the ground.

8.6.3 Emergency Procedure for Electrical Contacts

If a drill rig contacts an electrical line, it may or may not be insulated from the ground by its tires. Death or serious injury will result if a person touches the rig and the ground simultaneously.

Under most circumstances, the operator and other personnel on the seat of the vehicle should remain seated and not leave the vehicle. Do not move or touch any part, particularly a metallic part, of the vehicle, excavator or drill rig.

If it is determined that the rig should be vacated, the operator should jump clear and as far as possible from the rig. Do not step off, jump off, and do not hang on the vehicle or any part of the rig when jumping clear.

If you are on the ground, stay away from rig and do not let others get near the vehicle. Seek assistance immediately by calling the appropriate emergency agency. Emergency phone numbers are listed in Section 7.6.

8.7 Decontamination Procedures

8.7.1 Personal Decontamination

No personal protective equipment will be removed from the work zone without proper decontamination or placement in a disposal receptacle.

The following are guidelines for developing personnel decontamination procedures contained in the site specific HASP:

1. Tools, etc. will be dropped off onto a plastic sheet in the work zone for subsequent re-use or decontamination.

2. The boot wash station will consist of a plastic or metal tub and a boot brush.

3. The outer layer of disposable protective clothing will be removed by removing outer boots, outer gloves, hood, tape, etc., and placed in a receptacle for disposal. Clothing will

be removed by "peeling" off while turning it inside out. This will minimize contact with possible contamination on the outer surface.

4. Respirators will be removed and cartridges placed in a receptacle for disposal.

5. Inner gloves will be removed by rolling off the hand while turning them inside out and placed in a receptacle for disposal.

6. If highly toxic, skin corrosive or skin absorbable materials are known or suspected (none are suspected during these activities) to be present, personnel must shower before exiting the site.

NOTE: The Site Safety Officer or Field Team Leader will oversee personnel decontamination procedures.

8.7.2 Equipment Decontamination

Equipment, including drill rigs and excavators, will arrive at the site free of debris and contamination. Equipment will be cleaned and decontaminated between boreholes or trenches and before departure from the site.

Specific equipment decontamination procedures will be based upon the type of work being performed and anticipated levels of contamination. The following items are guidelines for the establishment of equipment decontamination procedures to be implemented as site-specific conditions warrant:

1. All equipment that has been in the work zone or the contamination reduction zone will be visually inspected and/or wipe sampled to assess the extent of contamination.

2. Sensitive instrumentation should be handled in a manner that will minimize the potential of exposure to hazardous soils and liquids. This care in handling will greatly reduce the amount of decontamination required. Should the conditions in the work zone present an extreme potential for contamination, instrumentation may be wrapped in plastic.

3. All hand tools, safety equipment, and heavy equipment will be decontaminated before leaving the site (e.g. high pressure, low volume hot water washed, steam cleaned, brushed with low phosphate detergent, and water rinsed).

4. Heavy equipment must have visible residues removed in the work zone. Wheels, wheel wells and cabs of vehicles must be cleaned before equipment is removed from the exclusion zone. The equipment may then be moved to a more centrally located decontamination pad for more extensive decontamination. This move must be accomplished in a manner that will prevent the spread of contamination along the travel path.

5. If warranted and required by the Project Work Plan, samples, such as equipment blanks, will be taken and submitted for project related analysis to confirm decontamination procedures.

8.7.3 Location of Decontamination Areas

Decontamination areas for project equipment and personnel will be designated by the Bergmann Associates Field Team Leader by the following guidelines:

Each decontamination area will be sited to have access to water and electrical (GFCI protected) supplies as necessary for the decontamination process.

Access to the decontamination area(s) will be limited and controlled.

Each contractor will be responsible for constructing their own decontamination pad.

8.8 Health and Safety Training Program

Work shall be done in accordance with Bergmann's Company Safety Plan and it relays the minimum safety procedures to follow for site specific tasks. Contractors are to provide their own HASP for site specific activities.

9.0 Community Health and Safety

9.1 Acknowledgment of Hazards

It is understood that the hazards that may exist for the workers on site may also impact the community. This plan addresses this issue and recommends engineering controls in an effort to protect community residents from exposure to these hazards.

The hazards that exist for off-site individuals include but are not limited to the following:

- Exposure to harmful vapors and/or particulates that migrated off-site.
- Interruption of utilities during ground penetrating investigations.
- The attractive hazard and potential fall hazard associated with field work and test borings.

9.2 Community Air Monitoring Plan (CAMP)

Monitoring for VOC's and dust/particulates will be followed in accordance with the site-specific Community Air Monitoring Plan (CAMP). The CAMP is provided as Section 10.0 of this Work Plan.

9.3 Utility Clearance

Utility clearance will be obtained by the drilling and excavating subcontractors from Dig Safe and the appropriate City authority before the start of any drilling or excavation conducted at the site. Other local utility clearance can be obtained by calling the toll free hotline Dig Safe at (800) 962-7962 and record the "reference number" for possible future use.

Utilities in the work area should be staked no greater than one week prior to the start of work.

9.4 Site Control of Attractive Hazards

The attractive hazard is a hazard that, by curiosity or mischief, lures a person to a location that poses a hazard to them. Attractive hazards at this work site are, but not limited to, potential fall hazard associated with open excavations and heavy machinery. Site security arrangements will be made to prevent unauthorized access to the site. Daily tasks will be planned to complete excavation work within discrete areas on a daily basis.

The existing chain link fence that surrounds the site shall be maintained and shall be locked at the end of the day. The existing fence shall keep the site secure, and thus eliminate the need to temporarily fill in any excavations with soil to prevent hazards overnight. Such excavations will remain open until laboratory analysis on confirmatory samples is completed and the results are validated. As a temporary measure an orange polyethylene security fence will then be installed completely around, and 6 feet away from, the edge of the excavation to detour persons.

10.0 Community Air Monitoring Plan

10.1 Introduction

This Community Air Monitoring Plan (CAMP) has been prepared by the City of Rochester. This CAMP addresses potential volatile organic compound (VOC) and particulate air quality issues which may arise during planned Remedial Design/ Remedial Action (RD/RA) activities at the 1200 East Main Street Site, Rochester, New York. This CAMP and the monitoring, response and action levels presented herein are adapted from the New York State Department of Health (NYSDOH) *Generic Community Air Monitoring Plan* presented in the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DRAFT DER-10 Technical Guidance for Site Investigation and Remediation, December 2002* (DER-10). The generic NYSDOH CAMP is presented for reference as Exhibit A.

The RD/RA activities planned during the portion of the project covered by this CAMP include free product removal, contaminated soil excavation and disposal, remedial system installation, and groundwater sampling.

Based on previous studies completed at the Site and the Site's history, the primary chemicals of concern at the subject site are various volatile organic compounds (VOC's), semi-volatile organic compounds (SVOC's), polychlorinated bi-phenyls (PCB's), and metals. Disturbance of soils and/or groundwater could result in volatilization of the organic compounds and fugitive dust releases to the ambient air creating possible nuisance or health threats to the neighborhood.

This CAMP details real-time monitoring activities to be carried out during the remedial action activities to minimize the potential for neighborhood exposure to airborne hazards resulting from fugitive emissions during field work.

Air monitoring and response actions for VOC's and particulates are included in this CAMP. VOC and particulate monitoring of the work areas will also be conducted as part of the Health and Safety Plan (HASP) that will be implemented during RD/ RA activities by Bergmann Associates (Bergmann). The following monitoring, response levels and actions are adapted from DER-10 NYSDOH Generic Community Air Monitoring Plan.

10.2 Methodology

The intrusive RD/ RA activities at the Site will consist primarily of free product removal, contaminated soil excavation and disposal, remedial system installation, and groundwater sampling. The following programs will be implemented to monitor and, if necessary, control the potential migration of fugitive VOC's and particulates on the property.

Continuous monitoring will be required for all ground intrusive activities. Ground intrusive activities include but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings, monitoring wells, or remedial system components.

Periodic monitoring for VOC's will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing wells. Periodic monitoring during sampling may reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location.

10.2.1 Perimeter Monitoring

For each day of intrusive field work, a wind sock or flag will be used to monitor wind direction in the area of the work zone. Based upon the daily wind direction, two (2) temporary monitoring points will be identified, one (1) upwind and one (1) downwind of the work area, at the perimeter of the site or field work location.

VOC monitoring will be done with a photo-ionization detector (PID-MiniRAE Model 2000 or its equivalent) fitted with a 10.6 eV lamp. Prior to the commencement of field work each day, background measurements of VOC concentrations will be logged at the upwind and downwind locations. Thereafter, readings will be recorded at approximate 15-minute intervals. These readings will be used to observe the difference between upwind and downwind VOC levels. If at any time, the downwind VOC levels exceed upwind levels (adjusted for engine exhaust) by 5 ppm (sustained), the work will be temporarily halted. The Contractor will then be required to implement the means necessary to control VOC's and explosive gases, similar to those discussed in Section 10.2.3.

Monitoring for explosiveness using an explosive gas meter will be routinely conducted during site activities as a precautionary measure to ensure site personnel are not subjected to any dangerous conditions.

Particulate monitoring will be done with a real time particulate meter (Mini Ram) capable of monitoring particulate matter less than 10 microns in size (PM-10). Prior to the commencement of field work each day, background measurements of particulate levels will be logged at the upwind and downwind locations. Thereafter, readings and visual observations will be recorded at approximate 15-minute intervals. 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 upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided 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.

10.2.2 Work Area Monitoring

In addition to perimeter monitoring, monitoring for VOC's, particulates and explosive gases will be carried out continuously within the work area to monitor personal exposures and to compare work area readings with downwind and upwind readings. The first readings of the day will be obtained prior to the commencement of work to obtain daily background readings. Readings will be logged along with the perimeter measurements. Specific monitoring procedures to be used in the work zone can be found in the Health and Safety Plan (HASP) prepared for this site.

10.2.3 Fugitive Dust Control

If the monitoring described in Sections 10.2.1 or 10.2.2 results in fugitive particulate levels exceeding 100 $\mu g/m^3$ above background, then the Contractor will implement fugitive dust control measures which may include one or more of the following:

- Using water spray or other dust suppression measures;
- Establishing wind shielding;
- Slowing down the field work speed; and/or
- Stopping the field work activities.

10.2.4 Minor Vapor Emissions Response Plan

If the ambient air concentration of total organic vapors exceeds 5 ppm (sustained) above the background at the perimeter of the work area, activities will be halted and monitoring continued.

If total organic vapor levels decrease below 5 ppm above background, work activities can resume, with emphasis given to observing spikes in levels. If the total organic vapor levels are greater than 5 ppm over background but less that 25 ppm over background at the perimeter of the work area, activities can resume provided the organic level 200 ft. downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over the background (the locations of structures in the subject neighborhood may not allow the 200 ft. buffer zone to be used).

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring as directed by the Safety Officer will be implemented to evaluate if the vapor emission levels exceed those specified in Section 10.2.5, Major Vapor Emission Response Plan.

10.2.5 Major Vapor Emission Response Plan

If total organic vapor levels greater than 5 ppm over background are identified 200 ft. downwind from the work area or half the distance to the nearest residential or commercial structure, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, total organic vapor levels greater than 5 ppm above background persist 200 ft. downwind or half the distance

to the nearest residential or commercial structure, then the air quality must be monitored within 20 ft. of the perimeter of the nearest residential or commercial structure (20-foot zone).

If efforts to abate the emission source area are unsuccessful and if the organic vapor levels continue to persist at or near 5 ppm above background for more than 30 minutes in the 20-foot zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect.

The Major Vapor Emission Response Plan shall also be immediately placed into effect if organic vapor levels are greater than 10 ppm above background at the 20-foot zone.

Upon activation, the following activities will be undertaken:

1. All Site work activities will cease.
2. All Emergency Response Contacts, including the NYSDEC and NYSDOH Site representatives, as listed in the Health and Safety Plan, will be contacted.

NYSDEC Region 8 Division of Environmental Remediation	Greg MacLean Phone: (585) 226-2466
NYSDOH Bureau of Environmental Exposure Investigation	Krista M. Anders Phone: (518) 402-7860

3. The local police authorities will immediately be contacted by the Safety Officer and advised of the situation. Evacuation or neighborhood notification plans can be discussed at that time.
4. Air monitoring will be conducted at 15-minute intervals within the 20-foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Site Safety Officer.

10.3 Record Keeping and Quality Control

For the duration of the field activities, a monitoring log book will be kept to record calibration, operational notes and monitoring readings. All readings must be recorded and available for State review. Instantaneous readings, if any, used for decision purposes should also be recorded. The results of the Community Air Monitoring Program will be incorporated by Bergmann into all required reports.

Instrumentation will be calibrated and/or operationally checked, either daily or at intervals recommended by the manufacturer. Only approved calibration gases will be used. All operators will have been trained in the proper use, maintenance, limitation, and interpretation of results of the monitoring equipment. A copy of the Daily Community Air Monitoring Log is included as Attachment C of this Community Air Monitoring Plan.

11.0 Citizens Participation

11.1 Introduction

The purpose of this Citizens Participation Plan is to allow for public review and comment concerning the cleanup activities to be conducted at the site. The Citizens Participation Plan will include the following items: establishment of a mailing list of adjacent property owners and other interested parties; placement of reports and other applicable materials at a local record repository; publication of notices in local media; and conducting public informational meetings.

11.2 Mailing List

A mailing list has been established that includes adjacent property owners, adjacent residences, and other concerned citizens/organizations. This list will be used to mail copies of public notices concerning availability of work plans and investigation reports, schedule of activities and public meeting notices. A copy of the mailing list is attached as Attachment D of this Plan.

11.3 Adjacent Property Owners/Residences

Adjacent residences are located to the east and west of the study site, along East Main Street, in the #1200 block between Mings Alley (west of the Autozone Parts store) and Laura Street.

Residences along Laura Street, located to the east of the study site.

Residences directly north of the study site, along the south side of Hayward Avenue.

11.4 Adjacent Businesses

Autozone Parts
1154 East Main Street
Rochester, New York 14609
(585) 482-2190

Volunteers of America Store
1185 East Main Street
Rochester, New York 14609
(585) 647-1150

11.5 Establishment of a Local Records Repository

Copies of work plans, investigation reports and other applicable materials have been made available for public review. Notices on the availability of applicable materials will be published in local newspapers. Materials will be made available for public review at the following locations:

City of Rochester City Hall
Department of Environmental Services
City Hall, 30 Church Street, Room 300B
Rochester, NY 14614-1290
Contact: Jane Forbes
(585) 428-6855

Rochester Public Library
Sully Branch (585) 428-8208
939 Bay Street
Rochester, NY 14609
Hours: Mon & Thurs: 12 PM – 6 PM
Tue, Wed & Fri: 11 AM – 1 PM
Sat: 10 AM – 1 PM

11.6 Publication of Notices in the Local Media

Copies of public notices concerning public meetings and records availability will be published in the following local newspaper:

Rochester Democrat and Chronicle
55 Exchange Blvd.
Rochester, New York 14604
(585) 428-7300

11.7 Public Meetings

Public meetings will be held as required by the NYSDEC. Meeting announcements will be mailed to local public officials, adjacent property owners (Section 11.3) and will be published in local newspapers (listed in Section 11.6).

Public meetings will be held at locations and at times to be determined by the NYSDEC and the City of Rochester.

11.8 Fact Sheets

Informative Fact Sheets have been prepared by the NYSDEC and have been distributed during investigative activities at the subject property. Additional Fact Sheets will be distributed to continue to update the public. Direct distribution will be via the attached mailing list and will be filed at the local records repositories.

12.0 Project References

Listings area in chronological order

Environmental Restoration Record of Decision, 1200 East Main Street Site, City of Rochester, Monroe County, New York, Site No. B-00129-8. New York State Department of Environmental Conservation Division of Environmental Remediation, March 2006.

Proposed Remedial Action Plan, 1200 East Main Street, City of Rochester, Monroe County, New York, prepared by the New York State Department of Environmental Conservation. A 1996 Clean Water/Clean Air Bond Act Environmental Restoration Project, Site No. B-0012908, February 2006.

Site Investigation Remedial Alternatives Report, 1200 East Main Street, City of Rochester, Monroe County, New York, Project B-00129-8, prepared by Bergmann Associates for the City of Rochester Department of Environmental Services, September 2005.

New York State Department of Health "Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes" (http://www.health.state.ny.us/nysdoh/indoor/fuel_oil.htm) February, 2005.

New York State Department of Health "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006
(http://www.health.state.ny.us/environmental/investigations/soil_gas/svi_guidance/index.htm

New York State Department of Environmental Conservation Division of Environmental Remediation, "Municipal Assistance for Environmental Restoration Projects. Procedures Handbook. 1196 Clean Water /Clean Air Bond Act Environmental Restoration Projects – Title 5, July 2004".

Bergmann Associates "Additional Investigative Services Work Plan", dated March 29, 2004.

DRAFT DER-10, "Technical Guidance for Site Investigation and Remediation", New York State Department of Environmental Conservation Division of Environmental Remediation, December 2002.

Bergmann Associates "Supplemental Site Investigation Work Plan", d September 20, 2002.

Bergmann Associates Draft Site Investigation/Remedial Alternatives Report, October 27, 2000.

New York State Department of Environmental Conservation, Division of Water, Technical and Operational Guidance Series 1.1.1, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitation, dated June 1998, with April 2000 Addendum.

New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation Technical and Administrative Guidance Memorandum HWR-94-4046, "Determination of Soil Cleanup Objectives and Cleanup Levels", Revised January 24, 1994.

New York State Department of Environmental Conservation, 6 NYCRR Part 375, Subpart 375-1, Section 375-1.10, Remedy Selection, http://www.dec.state.ny.us/website/regs/375.htm#375.

FIGURES

Scale 1 Inch = 150 Feet (approximate)

EJJ

Bergmann associates

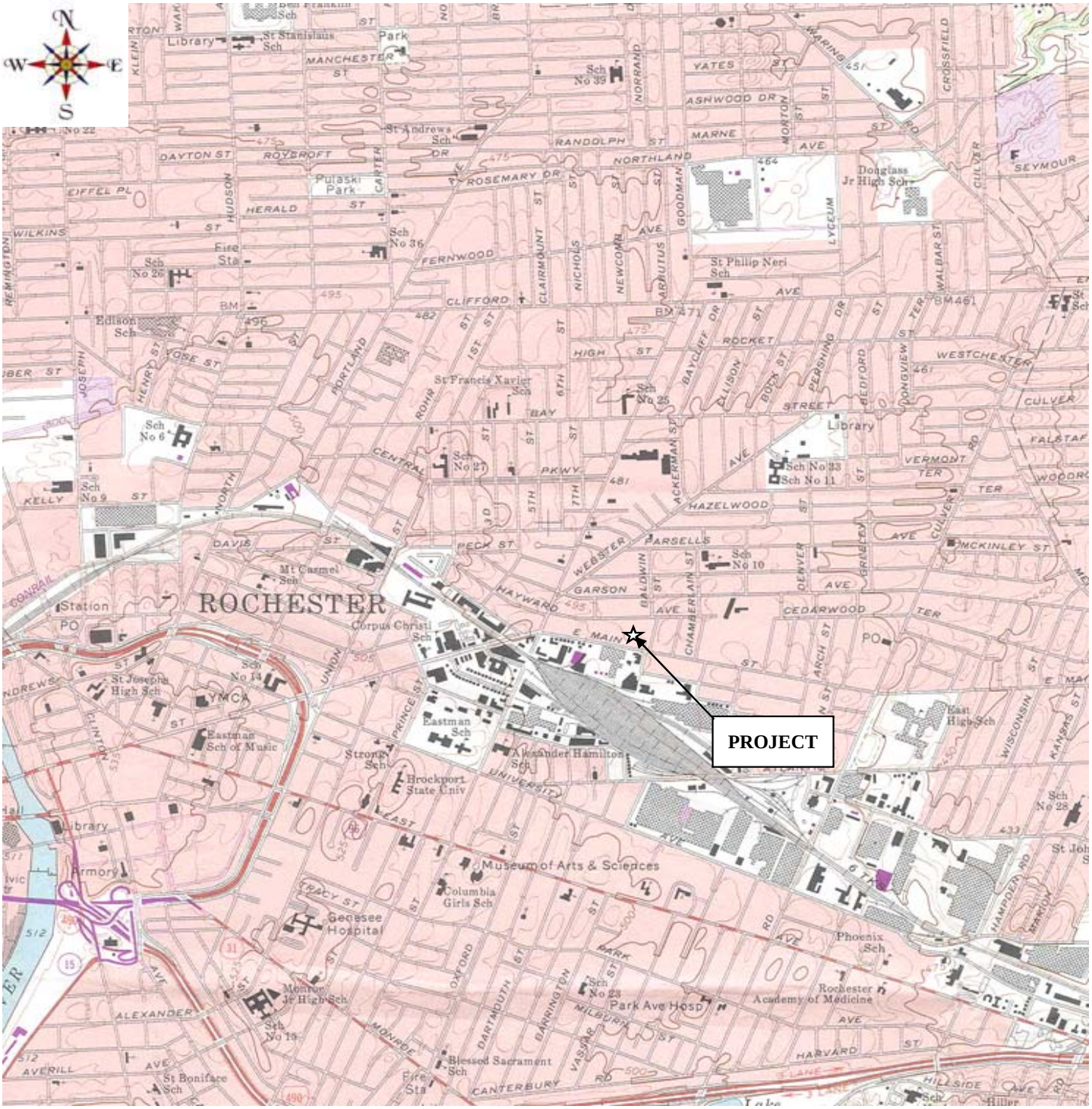
1200 East Main Street
City of Rochester, Monroe County, NY
Supplemental Site Investigation

SITE LOCATION MAP

City of Rochester Tax Map, Sheet No. 106.76

Date
June-09

Figure
1A



Scale 1 Inch = 2,000 Feet (approximate)

ELS

Bergmann associates

1200 East Main Street
City of Rochester, Monroe County, NY
Supplemental Site Investigation

USGS Topographic Map of The Study Area

USGS 7.5 Minute Topographic Map, Rochester East, NY Quadrangle, 1978

Date
June-09

Figure
1B

LEGEND

- EXISTING MONITORING WELL INSTALLED IN 2000 MW-1 TO MW-4
- SUPPLEMENTAL 2" DIA. MONITORING WELL MW-5 TO MW-14
- 478.0 — GROUNDWATER EQUIPOTENTIAL, FEET MEAN SEA LEVEL
- GROUNDWATER FLOW DIRECTION
- 478.93 — GROUNDWATER ELEVATION, JUNE 4, 2004
- SSU-1 — SUPPLEMENTAL SURFACE SOIL SAMPLE LOCATIONS, 2004 SSU8-SSU11
- SU — SURFACE SAMPLE
- SS — SUBSURFACE SAMPLE
- GV — GAS VALVE
- HYDRANT
- WV — WATER VALVE
- LIGHT POLE
- POWER POLE
- PROPERTY LINE
- PINE TREE
- V_3 — BASEMENT VENTILATION POINT (APPROXIMATE LOCATION)
- F — EXTERNAL VENTILATION FAN, (FANTECH, MODEL HP 2190, 115 V., 0.75 AMP, 85 WATTS) ACTIVATED MAY 13, 2004 1214 EAST MAIN STREET
- C_3 — SYSTEM COMMUNICATION POINT (APPROXIMATE LOCATION)

NOTE:

C_2 IS POINT OF SUBSLAB SAMPLE COLLECTED ON 9/18/2003.

WELL#	NORTHING	EASTING	ELEVATION TOP OF RISER	ELEVATION GROUND
MW-1	1,153,671.4	767,732.8	495.35	492.90
MW-2	1,153,674.2	767,600.4	496.02	493.24
MW-3	1,153,598.3	767,721.6	492.02	492.26
MW-4	1,153,634.0	767,645.6	492.00	492.51
MW-5	1,153,586.6	767,769.7	492.70	493.26
MW-6	1,153,663.9	767,783.0	492.65	493.13
MW-7	1,153,601.9	767,678.5	491.70	492.14
MW-8	1,153,620.0	767,590.4	494.91	492.32
MW-9	1,153,696.2	767,690.8	492.21	492.65
MW-10	1,153,755.7	767,618.8	496.19	493.80
MW-11	1,153,757.2	767,721.8	495.95	493.66
MW-12	1,153,530.8	767,689.2	491.17	491.63
MW-13	1,153,819.5	767,737.6	490.63	491.10
MW-14	1,153,821.3	767,614.4	489.48	489.80

ELEVATION VALUES RELATIVE TO MEAN SEA LEVEL
ELEVATIONS RESURVEYED JUNE 4, 2004

0 30 60 FT
SCALE BAR

399 HAYWARD AVE. 405 HAYWARD AVE. 409 HAYWARD AVE. 417 HAYWARD AVE. 423 HAYWARD AVE. 427 HAYWARD AVE.

11 LAURA ST. 7 LAURA ST. 1 LAURA ST. LAURA STREET

"AUTO ZONE" 1154 EAST MAIN ST.

1208 EAST MAIN ST. 1214 EAST MAIN ST. 1222 EAST MAIN ST. 1228 EAST MAIN ST.

EAST MAIN STREET

MW-13 480.53
MW-14 479.45
MW-1 479.51
MW-2 482.57
MW-3 476.43
MW-4 477.94
MW-5 478.03
MW-6 480.14
MW-7 476.25
MW-8 479.11
MW-9 481.25
MW-10 481.04
MW-11 481.32
MW-12 474.99

SSU-1 SSU-2 SSU-3 SSU-4 SSU-5 SSU-6 SSU-7 SSU-8 SSU-9 SSU-10 SSU-11

CHAIN LINK FENCE
EDGE PAVEMENT
6"BOX ELDER
SAN C/O
TANK PIT 1
TANK PIT 2
DEMOLISHED BUILDING FOUNDATION EXCAVATED AREA
PUMP PIT 1
WD. FR. RESIDENCE 1214,1216 EAST MAIN ST.
CONC. S/W
3"MAPLE
CURB
ELEC MH
HYD
WV
GV

480.0 481.0 482.0 479.0 478.0 477.0 476.0 475.0

N

CITY OF ROCHESTER
1200 EAST MAIN ST.
ROCHESTER, NY
14614

REMEDIATION PROGRAM

BERGMANN associates
Engineers / Architects / Surveyors

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'E

JUNE 2004 WATER TABLE SURFACE AND GROUNDWATER FLOW MAP

Project Manager: GF
Designed by: EJJ
Drawn by: TSB
Checked by: GF
Date Issued: JUNE 2009
Scale: AS SHOWN
Date

Project Number: 4454.04
File Name: W:\WR\jobs\COR\1200EMain\Dwgs\Fi

Drawing Number:

FIGURE 2

of

399 HAYWARD AVE. | 405 HAYWARD AVE. | 409 HAYWARD AVE. | 417 HAYWARD AVE. | 423 HAYWARD AVE. | 427 HAYWARD AVE.

LEGEND

- EXISTING MONITORING WELL INSTALLED IN 2000
- SUPPLEMENTAL 2" DIA. MONITORING WELL MW-5 TO MW-14
- SSU-1 SUPPLEMENTAL SURFACE SOIL SAMPLE LOCATIONS, 2004 SSU8-SSU11
- SU SURFACE SAMPLE
- SS SUBSURFACE SAMPLE
- GV GAS VALVE
- HYDRANT
- WV WATER VALVE
- LIGHT POLE
- POWER POLE
- PROPERTY LINE
- PINE TREE
- V_3 BASEMENT VENTILATION POINT (APPROXIMATE LOCATION)
- F EXTERNAL VENTILATION FAN, (FANTECH, MODEL HP 2190, 115 V., 0.75 AMP, 85 WATTS) ACTIVATED MAY 13, 2004 1214 EAST MAIN STREET
- C_3 SYSTEM COMMUNICATION POINT (APPROXIMATE LOCATION)

NOTE:

C_2 IS POINT OF SUBSLAB SAMPLE COLLECTED ON 9/18/2003.

100 PPB — ISOPLETH OF TOTAL VOLATILE ORGANIC COMPOUNDS IN GROUND WATER, JUNE 2004 PARTS PER BILLION (PPB) DASHED WHERE INFERRED

APPROXIMATE EXTENT OF LIGHT NON-AQUEOUS FREE PHASE PRODUCT (GASOLINE)

WELL#	NORTHING	EASTING	ELEVATION TOP OF RISER	ELEVATION GROUND
MW-1	1,153,671.4	767,732.8	495.35	492.90
MW-2	1,153,674.2	767,600.4	496.02	493.24
MW-3	1,153,598.3	767,721.6	492.02	492.26
MW-4	1,153,634.0	767,645.6	492.00	492.51
MW-5	1,153,586.6	767,769.7	492.70	493.26
MW-6	1,153,663.9	767,783.0	492.65	493.13
MW-7	1,153,601.9	767,678.5	491.70	492.14
MW-8	1,153,620.0	767,590.4	494.91	492.32
MW-9	1,153,696.2	767,690.8	492.21	492.65
MW-10	1,153,755.7	767,618.8	496.19	493.80
MW-11	1,153,757.2	767,721.8	495.95	493.66
MW-12	1,153,530.8	767,689.2	491.17	491.63
MW-13	1,153,819.5	767,737.6	490.63	491.10
MW-14	1,153,821.3	767,614.4	489.48	489.80

ELEVATION VALUES RELATIVE TO MEAN SEA LEVEL

0 30 60 FT
SCALE BAR

MW-14 TOTAL VOCs=ND
MW-13 TOTAL VOCs=1.4
SSU-9
SSU-10
SSU-3
CHAIN LINK FENCE
SSU-4
SSU-8
SSU-2
10 PPB
100 PPB
MW-11 TOTAL VOCs=957
SSU-5
SSU-11
SSU-1
6"BOX ELDER
MW-10 TOTAL VOCs=514
EDGE PAVEMENT
1,000 PPB
EDGE PAVEMENT
SAN C/O
SAN C/O
10,000 PPB
MW-9 TOTAL VOCs=17,407
MW-1 TOTAL VOCs=4,946
TANK PIT 2
MW-6 TOTAL VOCs=11.9
SSU-6
"AUTO ZONE" 1154 EAST MAIN ST.
CHAIN LINK FENCE
MW-2 TOTAL VOCs=7,803
TANK PIT 1
DEMOLISHED BUILDING FOUNDATION EXCAVATED AREA
C_3
V_3
C_2
WD. FR. RESIDENCE 1214,1216 EAST MAIN ST.
F
V_2
V_1
C_1
MW-4 TOTAL VOCs=8,493
EDGE PAVEMENT
TOTAL VOCs=985 MW-8
PUMP PIT 1 MW-7 TOTAL VOCs=25,525
TOTAL VOCs=3,132 MW-3
SSU-7
MW-5 TOTAL VOCs=2.9
1208 EAST MAIN ST.
1214 EAST MAIN ST.
1222 EAST MAIN ST.
1228 EAST MAIN ST.
CONC. S/W
3" MAPLE
10,000 PPB
GV
ELEC HH
CURB
HYD
WV
1,000 PPB
EAST MAIN STREET
100 PPB
10 PPB
CURB
CONC. S/W
MW-12 TOTAL VOCs=ND

11 LAURA ST.
7 LAURA ST.
1 LAURA ST.
LAURA STREET

CITY OF ROCHESTER

1200 EAST MAIN ST.
ROCHESTER, NY
14614

REMEDIATION PROGRAM

BERGMANN associates
Engineers / Architects / Surveyors

REVISIONS

NO.	DATE	DESCRIPTION	REV.	CK'D

NOTE:
Unauthorized alteration or addition to this drawing is a violation of the New York State Education Law Article 145, Section 7209.

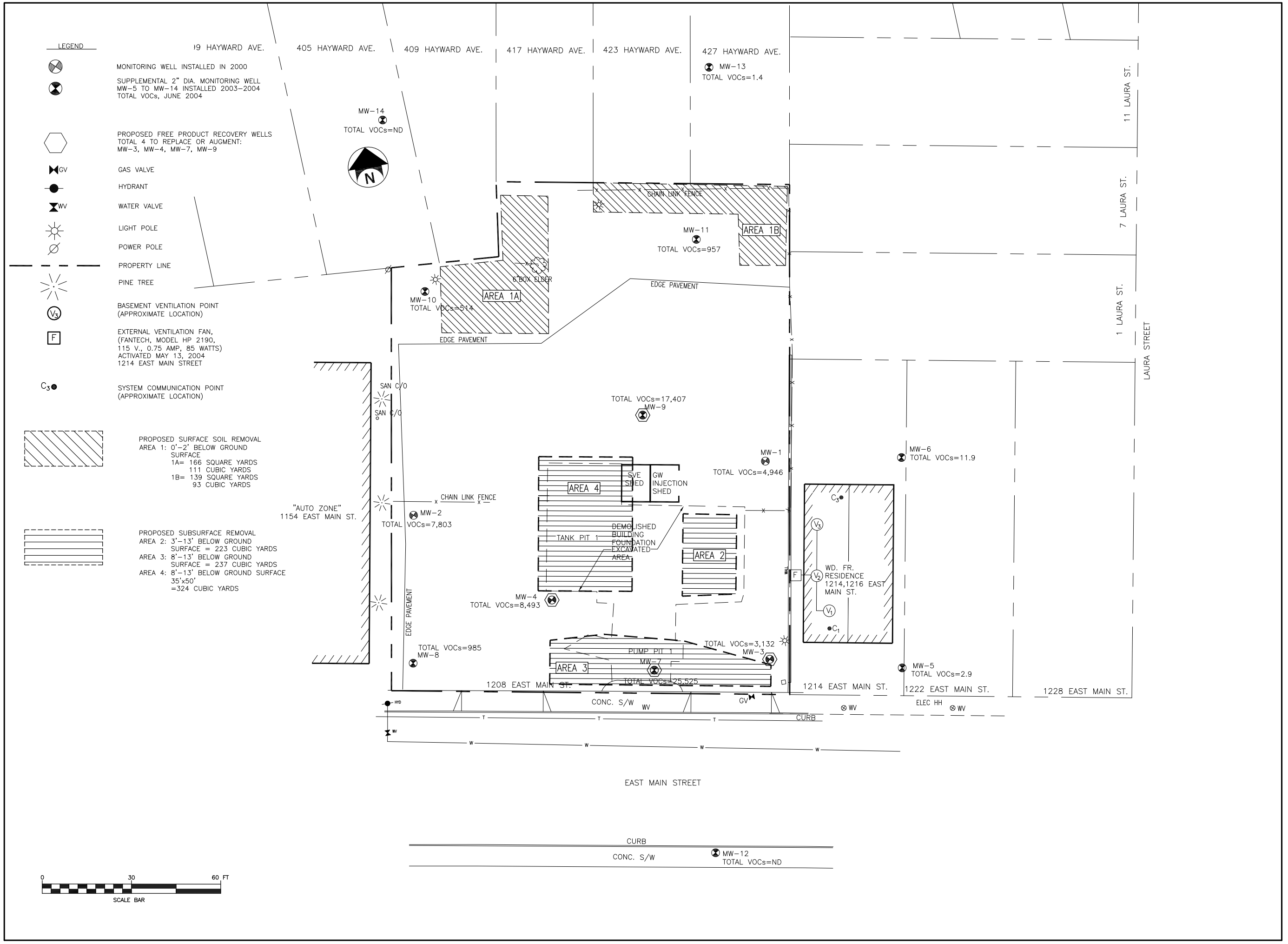
2004 GROUNDWATER ISOPLETH AND EXTENT OF FREE PHASE PRODUCT

Project Manager: GF
Designed by: EJJ
Drawn by: MDC
Checked by: GF
Date Issued: APRIL 2008
Scale: AS SHOWN
Date

Project Number: 4453.04
File Name: W:\WR\jobs\COR\1200EMain\Dwgs\Fig

Drawing Number:

FIGURE 3



CITY OF ROCHESTER
1200 EAST MAIN ST.
ROCHESTER, NY
14614

REMEDIATION PROGRAM

BERGMANN associates
Engineers / Architects / Surveyors

REVISIONS				
NO.	DATE	DESCRIPTION	REV.	CK'D

NOTE:
Unauthorized alteration or addition to this drawing is a violation of the New York State Education Law Article 145, Section 7209.

PROPOSED SOIL EXCAVATION AREAS AND ELEMENTS OF THE SELECTED REMEDY

Project Manager: GAF
Designed by: EJJ
Drawn by: KAL
Checked by: GAF
Date Issued: JULY 2009
Scale: AS SHOWN
Date

Project Number: 4453.04
File Name: W:\WR\jobs\COR\1200EMain\Dwgs\Fig3_RP.d
Drawing Number:

FIGURE 4

of

Scale 1 Inch = 2000 Feet (approximate)

EJJ

Bergmann associates

1200 East Main Street
City of Rochester, Monroe County, NY
Remediation Program

HOSPITAL ROUTE MAP

Rochester General Hosptial 1445 Portland Avenue

Date **June-09**

Figure 5

ATTACHMENTS

ATTACHMENT A

Monitoring Well Installation Procedure

Monitoring Well Installation

Existing groundwater monitoring wells at the 1200 East Main Street, Rochester NY project site may be removed or destroyed during soil excavation and remediation actions. Wells destroyed during these actions are to be replaced with wells of similar construction to allow for groundwater monitoring.

Existing groundwater monitoring wells were installed in 2000 with additional on-site and offsite monitoring wells installed in 2003 and 2004. Future monitoring wells shall be installed following the same protocol used to install the existing monitoring wells. Sample Boring Logs and monitoring well details are attached to this procedure.

Measurements performed in 2000 indicated that groundwater was present at depths approximately 17 to 23 feet below the ground surface. The April 2004 water table surface and flow pattern indicated groundwater flow from the north-northwest to the south-southeast. The water table in the central-northern portions of the site was above the bedrock surface, with groundwater present in unconsolidated sediments.

At the southern portion of the site the water table has been measured at elevations below the top of bedrock, with no perched water table in the overburden. Groundwater has been present in joints and fissures in the bedrock in this area.

Depth to groundwater measurements were last obtained in June 2004. Depths to groundwater ranged from 10 feet to 16 feet below ground surface. The June 2004 water table surface showed groundwater at the subject parcel to be flowing in a bi-directional pattern similar to previous mapping, with the northern portion of the site flowing to the northwest and the southwestern portion of the site flowing to the southeast.

Well Construction

All proposed replacement monitoring wells shall be constructed of two (2) inch diameter, schedule 40 PVC with a screwed on bottom cap and a locking cap at the top of the riser. The well screen is to consist of factory constructed #10 slot (0.010 inch) PVC. Ten (10) feet of well screen will be installed for each well. The screened interval will be placed approximately five (5) feet above and below the estimated water table. Should field conditions indicate extreme water table fluctuations, additional well screen may be installed, with the approval of the NYSDEC and City.

Monitoring Well Installation Procedures

A conventional drilling rig will be used to advance a boring through the overburden sediments to the bedrock interface. This boring will be advanced using hollow stem auger drilling methods. 4 ¼ inch diameter hollow stem auguers shall be used to advance the borings. Competent bedrock is present at depths that range from 11.5 feet to 15.5 feet below ground surface.

Existing Monitoring Well Construction Summary
1200 East Main Street, Rochester, NY

Well Number	Date Completed	Well Material	Top of Well Casing Elevation, Feet, Mean Sea Level	Approximate Depth to Groundwater	Well Screen Interval 0.010 inch slot	Length of Well Screen	Depth to Top of Bedrock
MW-1	July 6, 2000	2" PVC	495.35	15.8	7.5 - 22.5	15.0	15.5
MW-2	July 7, 2000	2" PVC	496.02	13.4	9.0-24.0	15.0	12.0
MW-3	July 10, 2000	2" PVC	492.02	15.8	8.0-23.0	15.0	13.0
MW-4	July 12, 2000	2" PVC	492.00	14.1	6.5-21.5	15.0	11.5
MW-5	Aug. 1, 2003	2" PVC	492.70	14.7	13.0-25.0	12.0	15.0
MW-6	July 30, 2003	2" PVC	492.65	12.5	12.0-24.0	12.0	14.0
MW-7	July 28, 2003	2" PVC	491.70	16.1	11.0-23.0	12.0	13.0
MW-8	July 25, 2003	2" PVC	494.91	15.8	8.0-20.0	12.0	9.8
MW-9	July 24, 2003	2" PVC	492.21	11.0	8.3-23.3	15.0	13.3
MW-10	July 22, 2003	2" PVC	496.19	15.2	11.0-24.0	13.0	14.0
MW-11	July 23, 2003	2" PVC	495.95	14.6	12.9-26.5	13.6	16.4
MW-12	July 29, 2003	2" PVC	491.17	16.2	10.5-22.5	12.0	12.5
MW-13	May 26, 2004	2" PVC	490.63	10.1	8.3-23.3	15.0	13.3
MW-14	May 27, 2004	2" PVC	489.48	10.0	4.7-19.7	15.0	10.0

All measurements are in feet
Top of Casing elevations from the latest survey data in 2003 and 2004
Depth to groundwater measurements taken from below top of casing measured on June 4, 2004
All well diameters are 2-inches with 0.010 inch slot size well screen

Decontamination procedures

All drilling equipment (augers, rods, drill bits, split spoons, etc.) shall be cleaned between well locations. All wash water and cuttings shall be stored on-site for characterization for off-site disposal. A temporary decontamination pad will be constructed on-site to be lined with plastic. All water generated during well development and subsequent purging events will be contained for off-site disposal.

Sampling and Monitoring

Geologic sampling will be performed during the monitoring well installation and will consist of continuous Split Spoon samples of soil sampling to the bedrock surface. Representative soil samples collected will be retained for future reference. Soil samples will be retained in glass jars.

Real-time, field-screen concentration of total VOCs will be measured using a photo-ionization detector. In addition, splits of the recovered soil samples will be retained for headspace screening to qualitatively determine the presence or absence of contamination. The headspace screening sample split will be prepared and measured.

In addition to field screening for VOCs, the soil will be classified according to the Unified Soil Classification System. The samples will also be logged to describe matrix and clasts, mineralogy, particle roundness, color, appearance, odor, and any evidence of environmental contamination (e.g., odors and staining). A drilling log will be kept documenting soil information obtained and the depth of each observation. This log will also document drilling information observed in the field such as soil moisture content, water table depth, depth to significant changes in materials, sample recovery (in tenths of a foot), hammer blow counts, drilling methods, and other pertinent information.

Subsurface soil samples will be collected continuously from the ground surface until refusal with a split-barrel soil sampler in accordance with ASTM Method D-1586. The sample borehole will be advanced with hollow stem augers. The soil boring will proceed until bedrock is encountered, as evidenced by auger refusal. Soil cuttings and leftover soil samples from the borehole will be managed and stored for off-site disposal.

Upon reaching competent bedrock, use of hollow stem augers will be discontinued, and the borehole will be advanced using water-rotary drilling techniques. Water rotary drilling is preferred for this project. If required, flush joint casing will be lowered through the hollow stem augers and seated into the bedrock surface. As an alternative, temporary steel casings will be installed to the bedrock surface. Water rotary drilling methods will then be utilized to advance the borehole to the desired depth. All borings will be advanced ten (10) feet into competent bedrock.

No bedrock cores or bedrock samples are proposed to be collected during this supplemental site investigation. Four (4) bedrock cores were collected and described previously during the 2000 investigation program.

Water from the bedrock drilling process will be containerized and managed with rinse water generated from decontamination practices. If necessary, measures will be taken to prevent runoff of drill water away from the drill site. Solid bedrock cuttings will be managed with soil cuttings generated by the hollow stem augers.

Monitoring Installation

The assembled well screen/riser assembly will be lowered through the hollow stem auger/flush joint casing assembly. The interior of the auger/casing assembly will be cleaned of interior sediment until the desired well placement depth has been reached. Appropriately sized filter sandpack will be placed in the annular space between the well and auger. The filter sandpack will be carefully placed to ensure all of the annular space is filled as the augers are retrieved to avoid any bridging or development of voids.

The annular space between the borehole and the monitoring well is to be backfilled with a clean 00 N or equivalent sandpack with a 90% retention with the 0.010 inch slot size. The sand pack is to be placed one (1) foot above the top of the well screen-riser interval.

A bentonite seal is to be placed at the top of the sandpack interval. When possible, the bentonite seal is to be at least three (3) feet thick. The bentonite to be placed in the annular space between the borehole and well casing will terminate approximately four (4) feet below ground surface. Concrete will be used to fill the remaining interval.

At locations where the bentonite seal is to be placed at depths greater than ten (10) feet below grade, the bentonite seal may be placed into the annular space via pumping through a tremie pipe. When the bentonite seal is relatively shallow and where the boring remains open and free of standing water, the bentonite seal may be installed by pouring in bentonite pellets that are to be immediately hydrated.

Grout is to be placed on top of the bentonite seal and is to extend to grade. The ground will consist of Portland cement, bentonite and potable water. Ground containing bentonite will not be used above the frost line.

The monitoring wells will be completed at the surface with either a flush mount steel protective roadway box or with a “stick-up” protective steel casing that is at least 2 inches larger in diameter than the 4-inch diameter PVC well casing. The roadway pox or protective casing will be permanently marked to identify the well number. A weep hole will be drilled in the base of the protective casing, and a locking cap and weather resistant padlock will be used to secure the well. The protective casing will be set in a minimum of 4-inch thick concrete pad that is designed to prevent freeze/thaw damage. The protective casing will extend below ground at a minimum of 2-feet. After the wells are completed, the location of the wells will be determined by survey and referenced to New York State Plane coordinates. The survey will also include measurement of the elevation of the ground surface and inner PVC casing, referenced to mean sea level datum.

Augers will be removed while grout is being placed in the borehole. The casing will be grouted in place be filling the annular space with a bentonite/cement grout mixture, pumped in place via a tremie pipe. After the grout has been allowed to set for 24 hours, residual grout inside the conductor casing will be removed by reaming and drilling through bedrock via water rotary methods will commence.

Survey of Well Locations and Elevations

A survey will be conducted to determine the location and elevations of the replacement groundwater monitoring wells. The top of casing for each well will also be determined. Well locations will be determined to 0.10 foot accuracy. Elevation of top of casing will be determined to 0.010 foot accuracy relative to mean sea level.

Monitoring Well Development

All replacement groundwater monitoring wells will be developed to remove fine sediments from the filter sandpack and to improve radial flow into the well. Monitoring wells will be developed no sooner than 48 hours after completion, to allow the grout to harden.

Existing subsurface conditions as determined from the prior investigations indicate that the screened interval for the additional monitoring wells will be placed in bedrock, as opposed to unconsolidated sediments. As such, significant amounts of fine materials should not be encountered. Monitoring wells will be developed as necessary to remove fines prior to sampling.

Following construction of wells, the monitoring wells will be developed with a low-flow peristaltic pump with dedicated tubing placed in each well. Each well will be purged of stagnant water until the water in the well is representative of formation water. The amount of water purged will vary from well to well and purging will continue until the field parameter measurements of the purge water stabilizes No time limit will be placed on the required well development. Use of a surge block may be required to force drilling fluids through the sand filter pack, break up the silt and clay smear on the borehole annulus, and remove fine sediments from the portion of the producing formation adjacent to the borehole.

Purge water is to be collected and placed into 55 gallon drums for on-site storage eventual disposal.

ATTACHMENT B

Subcontractor/Cooperating Firm Agreement

Subcontractor/Cooperating Firm Agreement

Under a prime contract with its client, _____, Bergmann Associates has developed a Site Specific Health and Safety Plan (PLAN) and specifically to satisfy the requirements of its prime contract and its responsibility to protect the health and well-being of its employees. Bergmann has provided a copy of the PLAN to its subcontractors and cooperating firms, _____, (under Bergmann subcontract number _____, dated _____, 19___), for informational purposes only to assist the subcontractors and cooperating firms in assessing potential hazards and planning for the protection of the health and well-being of its own employees. Upon transmittal of this informational copy of the PLAN to the subcontractors and cooperating firms, Bergmann disclaims all liability whatsoever to the subcontractors and cooperating firms resulting in any way from the subcontractor's and cooperating firms use or reliance upon the PLAN. Likewise, upon receipt by the subcontractors and cooperating firms of this informational copy of the PLAN, the subcontractors and cooperating firms waives, releases, and promises not to sue Bergmann as a result of the subcontractors and cooperating firms use or reliance upon the PLAN. This waiver is granted in recognition of the subcontractors and cooperating firms acceptance of sole responsibility for assessing potential hazards and preparing/implementing an appropriate subcontractor and cooperating firm Health and Safety Plan which will protect the health and well-being of its own employees.

PROPRIETARY INFORMATION

This PLAN is the sole and exclusive property of Bergmann Associates. It is not to be copied or distributed for any use except that for which it was intended (as described above).

Understood and Accepted:

Bergmann Associates	Subcontractor:_____
	Cooperating Firm:_____
BY: _____	BY: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

ATTACHMENT C

Community Air Monitoring Log and NYSDOH Generic Community Air Monitoring Plan

1200 East Main Street - City of Rochester

Community Air Monitoring Daily Log

Date: ______________________

		Time	
Site Representative:		**On-Site:**	**Off-Site:**
Appr. Wind Direction:	**Appr. Wind Speed:**	**On-Site:**	**Off-Site:**
Weather Conditions:		**On-Site:**	**Off-Site:**

Description of Daily Work Tasks:

Action Level Exceedance:	**None**	**Yes**: (description)

Notes:
Readings to be taken at 15 minute intervals.

	Particulates (ug/m^{3})					**Volatile Organic Compounds (VOCs) (ppm)**			
	Perimeter Monitoring		Work Zone Monitoring			Perimeter Monitoring		Work Zone Monitoring	
Time									

Action Level: Downwind particulate level that exceeds the upwind particulate level by 100 ug/m3.
If the action level is exceeded, the Site Representative will imediately notify the Site Safety Officer.

Meter ID:
Daily Background:

Action Level: Downwind VOC levels exceed upwind VOC levels. If action level exceeded, the Site Representative will immediately notify the Site Safety Officer implement minor or major emission monitoring.

Meter ID:
Calibration Time:
Background Reading

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. 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.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with **heavy** metals alone may only require particulate monitoring. If radiological contamination **is** a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDECINYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required 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.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion 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 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring 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 of 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. All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion 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-I0 particulate level is 100 micrograms per cubic meter (mcg/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-I0 particulate levels do not exceed 150 mcg/m^3 of 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 mcg/m^3 of 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 concentrations to within 150 mcg/m^3 of the upwind level, and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

Special Requirements for Work Within 20 Feet of potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed I ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also he predetermined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should he discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m3, work activities should he suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored, Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall he as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby1 occupied structures" would he adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls he used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

ATTACHMENT D

Community Notification Mailing List

1200 E. Main Street CPP Mailing List

3/26/2008

PROPINFO_	PROPINFO_STREET	PROPI	PROPINFO_OWNERNA	PROPINFO_OWNERAD	PROPINFO_OWNERCI
0436	HAYWARD AV	14609	STARKS VIOLA	436 HAYWARD AVE	ROCHESTER NY 14609
0474-0476	HAYWARD AV	14609	STOKES WILLIE ANN	476 HAYWARD AVE	ROCHESTER NY 14609
0004-6	LAURA ST	14609	FLEMING JOHN M	1985 PENFIELD RD	PENFIELD NY 14526
0417	HAYWARD AV	14609	PREA LLC	292 LAKE AV	ROCHESTER NY 14608
0405	HAYWARD AV	14609	CITY OF ROCHESTER	405 HAYWARD AV	ROCHESTER NY 14609
0383	HAYWARD AV	14609	DORSEY WILLIE &	93 FIRESTONE DR	ROCHESTER NY 14624
1157-1159	E MAIN ST	14609	DELEON-LARA MANUEL A	27048 TRIUMPH AV	SANTA CLARITA CA 91387
1222	E MAIN ST	14609	CREGO KEVIN	PO BOX 803	FAIRPORT NY 14450
0014	LAURA ST	14609	FLEMING JOHN M	1985 PENFIELD RD	PENFIELD NY 14526
0008-8.5	LAURA ST	14609	DIMORA CARMEN	120 KAYWOOD DR	ROCHESTER NY 14626
0012	LAURA ST	14609	FLEMING JOHN M	1985 PENFIELD RD	PENFIELD NY 14526
0031	BALDWIN ST	14609	MCGILL JOHN H SR &	41 BALDWIN ST	ROCHESTER NY 14609
0377	HAYWARD AV	14609	VAN TOSH BRIAN	104 SPENCER RD	ROCHESTER NY 14609
1180-1192	E MAIN ST	14609	AUTOZONE INC	PO BOX 2198	MEMPHIS TN 38101
1244-1246	E MAIN ST	14609	CINOLOE DANIEL	PO BOX 20822	ROCHESTER NY 14602
0406	HAYWARD AV	14609	MACKEY HARRY A JR	406 HAYWARD AV	ROCHESTER NY 14609
0399	HAYWARD AV	14609	CHARLES CORINE	399 HAYWARD AVE	ROCHESTER NY 14609
0414	HAYWARD AV	14609	MOWERS STEVEN A	7733 LOWER FISHERS RD	VICTOR NY 14564
0443	HAYWARD AV	14609	FACADE LLC	PO BOX 17260	PLANTATION FL 33318
0365-367	HAYWARD AV	14609	SULLIVAN VINCENT &	134 HERITAGE CIR	ROCHESTER NY 14615
0001-5	LAURA ST	14609	BULLSEYE PROPERTIES	PO BOX 24	PULTNEYVILLE NY 14538
0469	HAYWARD AV	14609	NEMBHART DARNUS	469 HAYWARD AV	ROCHESTER NY 14609
0010	LAURA ST	14609	FLEMING JOHN M	1985 PENFIELD RD	PENFIELD NY 14526
0454-456	HAYWARD AV	14609	ALSTON RICHARD &	456 HAYWARD AVE	ROCHESTER NY 14609
0366	HAYWARD AV	14609	NGUYEN TIEN T	95 SYDENHAM RD	ROCHESTER NY 14609
0019	BALDWIN ST	14609	LORIA SAM & CATHERINE	127 N RIDGELAWN DR	ROCHESTER NY 14617
1258	E MAIN ST	14609	SHILOH BAPTIST CHURCH	PO BOX 30856	ROCHESTER NY 14603
0462	HAYWARD AV	14609	CITY OF ROCHESTER	30 CHURCH ST RM 28B	ROCHESTER NY 14614
0446	HAYWARD AV	14609	KEMMERER WENDY H	109 DEEP RUN RD	DUBLIN PA 18917
0422-426	HAYWARD AV	14609	COLLAZO JAIME &	422 HAYWARD AV	ROCHESTER NY 14609
0370-372	HAYWARD AV	14609	BOSTICK BRENIS	372 HAYWARD AV	ROCHESTER NY 14609
0427	HAYWARD AV	14609	CITY OF ROCHESTER	30 CHURCH ST	ROCHESTER NY 14614
1252	E MAIN ST	14609	CORA CLAUDINO	1505 PENROSE AVE	ATLANTIC CITY NJ 08401
0468	HAYWARD AV	14609	THOMAS LORI F	468 HAYWARD AVE	ROCHESTER NY 14609
0431	HAYWARD AV	14609	MOSES ANDORA	431 HAYWARD AV	ROCHESTER NY 14609
0423	HAYWARD AV	14609	MILLWOOD MARY ANN	423 HAYWARD AVE	ROCHESTER NY 14609
0393-395	HAYWARD AV	14609	ROCHESTER HSG	675 W MAIN ST	ROCHESTER NY 14611
1151	E MAIN ST	14609	LOCIGNO JAMES S SR &	146 SUELLEN DR	ROCHESTER NY 14609
0461	HAYWARD AV	14609	CITY OF ROCHESTER	30 CHURCH ST	ROCHESTER NY 14614
0371	HAYWARD AV	14609	COKER MARTIN	79 COTTAGE ST	ROCHESTER NY 14608
1200	E MAIN ST	14609	CITY OF ROCHESTER	30 CHURCH ST	ROCHESTER NY 14614
1160-1178	E MAIN ST	14609	AUTOZONE INC	PO BOX 2198	MEMPHIS TN 38101
0432	HAYWARD AV	14609	SWEETLAND ROBERT	PO BOX 1277	FRAZER PA 19355
0410	HAYWARD AV	14609	WALL TONY	12 CASHMERE CT	ROCHESTER NY 14609

1200 E. Main Street CPP Mailing List

3/26/2008

PROPINFO_	PROPINFO_STREET	PROPI	PROPINFO_OWNERNA	PROPINFO_OWNERAD	PROPINFO_OWNERCI
0387	HAYWARD AV	14609	FLEETWOOD LLC	144 BERG RD	ONTARIO NY 14519
0002	LAURA ST	14609	MCNAIRY CELESTINE	2 LAURA ST	ROCHESTER NY 14609
1240	E MAIN ST	14609	CITY OF ROCHESTER	30 CHURCH ST	ROCHESTER NY 14614
1228-1230	E MAIN ST	14609	FLEMING JOHN M	1985 PENFIELD RD	PENFIELD NY 14526
0460	HAYWARD AV	14609	HARRING RENDIA T	PO BOX 67085	ROCHESTER NY 14617
1175	E MAIN ST	14609	SUBARO LLC & GAROSH	1175 E MAIN ST	ROCHESTER NY 14609
1185-1223	E MAIN ST	14609	LAIDLAW TRANSIT INC	45 ANDERSON RD	BUFFALO NY 14225
1237-1261	E MAIN ST	14609	R P FEDDER CORP	PO BOX 67222	ROCHESTER NY 14617
0418	HAYWARD AV	14609	SIEGLE CLINTON	14069 HUNTERS GROVE	ORLANDO FL 32828
0394-396	HAYWARD AV	14609	ALLEN NELSON	17 CONCORD ST	ROCHESTER NY 14605
0390	HAYWARD AV	14609	MALIK NADIA & SUMAIYA	8 LEEWARD LN	ROCHESTER NY 14618
0409	HAYWARD AV	14609	MCNAIRY EMMA	409 HAYWARD AVE	ROCHESTER NY 14609
0398	HAYWARD AV	14609	MACKO JOSEPH J	180 CHAMBERS ST	SPENCERPORT NY 14559
0378	HAYWARD AV	14609	CITY OF ROCHESTER	30 CHURCH ST	ROCHESTER NY 14614
0007-9	LAURA ST	14609	FLEMING JOHN M	1985 PENFIELD RD	PENFIELD NY 14526
1214-1216	E MAIN ST	14609	CREGO KEVIN	PO BOX 803	FAIRPORT NY 14450
0442	HAYWARD AV	14609	CAMMELOT TI	34 HELMSFORD WAY	PENFIELD NY 14526
0011-15	LAURA ST	14609	HURLEY DALE	289 CARLING RD	ROCHESTER NY 14610
0025	BALDWIN ST	14609	BURRITT KENNETH C	185 KAYWOOD DR	ROCHESTER NY 14626
1233	E MAIN ST	14609	TRAXION MANAGEMENT	1233 E MAIN ST	ROCHESTER NY 14609

ATTACHMENT E

1315 South Plymouth Ave. Borrow Pile Sampling Plan

City of Rochester
Office of the Commissioner
Department of Environmental Services
City Hall Room 300B, 30 Church Street
Rochester, New York 14614-1290
www.cityofrochester.gov

Division of
Environmental Quality

May 11, 2009

NYSDEC Region 8
6274 East Avon-Lima Road
Avon, New York 14414
Attn: Mr. Gregory B. MacLean

Re: 1200 East Main Street ERP (B00129-8)
Proposed Backfill Soil Approval

Dear Mr. MacLean:

Per discussions from our February 17, 2009 meeting, please find in the enclosed, a summary of the characteristics of the surplus soil currently stockpiled at 1315 South Plymouth Avenue, in the City of Rochester. The City respectfully requests approval to utilize material from this source as backfill, in excavations created during the petroleum contaminated soil source removal action at the 1200 East Main Street ERP Site.

The Plymouth Avenue soil was generated as a result of the removal of surplus topsoil and/ or non-engineered fill from a redevelopment project at the adjacent 910-960 Genesee Street, to meet the grading and landscaping specifications of the new construction (Figure 1). Test Pits previously excavated at five locations at the northeastern limits of the pile suggest the material characteristics are homogeneous throughout the pile. Generally, the test pits consisted of re-worked brown, silty sand to medium gravel, pebbles, and cobbles with fragments or whole bricks and clay tile, C&D materials and organics. Non-native brick, tile and miscellaneous C&D debris are attributed to co-mingling of remnants of former building foundations demolished and backfilled in 2006. Organic materials consisting of roots were also observed and are attributed to roots left in place from trees and shrubs cleared to accommodate the new construction.

Laboratory analysis results from test pits excavated in January 2009, summarized in Table 1, indicate that the sampled soils do not exhibit contaminant concentrations for Metals, VOCs, SVOCs or PCBs above NYCRR Part 375 SCOs for Commercial Use or for the Protection of Groundwater.

The City will adhere to the following sampling plan to adequately characterize materials intended for use as backfill at the 1200 East Main Street site:

1. A portion of the soil pile will be measured and taped or staked out and designated as “1200 East Main Street Re-use soil”.
2. Using a rubber tired backhoe or the equivalent, ten (10) test pits will be excavated to an approximate depth of 9 feet. Soil characteristics will be observed, photographed and recorded from each test pit and representative samples will be collected and analyzed for Metals, VOCs, SVOCs or PCBs in accordance with NYCRR Part 375-6.7 (d).
3. Soil analytical results will be compared to NYCRR Part 375 SCOs for Restricted Commercial Use as well as for Protection of Groundwater.

4. Soils approved for use as backfill will be transported to 1200 East Main Street Site and placed into excavations with confirmed clean sidewall and bottom samples. Backfilled soils will be compacted using the excavator or backhoe bucket. (NOTE: Due to the limited Site space for staging materials, and the City's liability associated with open excavations, backfilling will take place immediately after receiving satisfactory laboratory analysis results for sidewall and bottom samples. The City understands that should data validation of the confirmatory samples indicate laboratory errors, re-evaluation or re-excavation may be necessary.)

The City is currently evaluating two (2) approaches for source soil excavation, transportation, disposal and backfilling at the Site:

1. Removal and off-site disposal of all on-site excavated materials, and importing all backfill materials from Plymouth Ave. (pending NYSDEC approval).
2. Field screening of assumed non-impacted on-site soils, confirmatory sampling, removal and off-site disposal of impacted soils, re-use of suitable on-site soils with the balance of backfill to come from the Plymouth Ave. borrow source after appropriate sampling.

Depending on the results of the cost/ benefit analysis of the two approaches, between 1250 and 2500 yd^3 of material are anticipated to be needed for backfilling of excavations at the 1200 East Main Street Site (Figure 2). Should a lesser amount of soil be warranted for use as backfill, the number of test pits and samples at the Plymouth Ave. soil pile will be adjusted as needed.

In the interest of time, the City intends to schedule excavation of the exploratory test pits and characterization sampling work at the Plymouth Avenue site immediately upon receipt of NYSDEC approval of this request. Feel free to contact me at (585) 428-7892 or via e-mail at forbesj@cityofrochester.gov if you require additional information.

Sincerely,

Jane MH Forbes
Environmental Specialist – Remediation

cc: file

Enclosures

G:\ENVQUAL\JANE\JOBS\1200 East Main\Remediation Phase\Plymouth_Soils4-6-2009.docx

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (585) 226-2466 • **FAX:** (585) 226-8696
Website: www.dec.state.ny.us

Alexander B. Grannis
Commissioner

June 3, 2009

Ms. Jane MH Forbes
Environmental Specialist - Remediation
City of Rochester, Division of Environmental Quality
30 Church Street, Room 300B
Rochester, New York 14614-1290

Re: 1200 East Main Street ERP Site, B00129-8
Proposed Backfill Soil Approval

Dear Ms. Forbes:

This office has received your request to use surplus soil that is currently stockpiled at 1315 South Plymouth Avenue in the City of Rochester as backfill for the subject site. The request includes analytical and qualitative documentation from five test pits which suggest that the soil is homogenous and expected to meet project requirements. Ten test pits are to be excavated from an area of the stockpiled soil that will be designated for use at the subject site, comprising up to 2,500 cubic yards of soil. One soil sample will be collected from each test pit and analyzed for the full list of TCL organics and TAL inorganics. Results will be compared to the Part 375 SCOs for Commercial Use and Protection of Groundwater to determine if the material is acceptable for use as backfill on this subject site. This request is hereby approved.

If you should have any questions or I can be of further assistance, please feel free to contact me at (585) 226-5356 or via email at gbmaclea@gw.dec.state.ny.us.

Sincerely,

Gregory B. MacLean, P.E.
Environmental Engineer 2

ec: B. Putzig, NYSDEC - Region 8
R. Knizek, NYSDEC - Central Office
K. Anders, NYSDOH - Troy
J. Kosmala. MCHD
J. Biondolillo, City of Rochester
G. Flisnik/E. Jones, Bergmann Associates