Department of Environmental Conservation

Division of Environmental Remediation

Site Characterization - Scope of Work

Commerce Square
Walnut Street
City of Lockport
Niagara County, New York

January 2010

New York State Department of Environmental Conservation
Region 9
270 Michigan Avenue

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1.0 SITE CHARACTERIZATION OBJECTIVES

The objective of this Site Characterization is to determine if there are any environmental impacts associated with previous uses of the property. Since recent soil investigations have been completed for the property outside of the site buildings, this Site Characterization will be focused on the characterization of site soils beneath site building Nos 2, 3 and 4. The characterization of the soils under the buildings will be accomplished using soil boring techniques, with the analysis of selected soil samples. In addition, six shallow bedrock groundwater monitoring wells will be installed and sampled from locations outside the site buildings. The specific responsibilities of the NYSDEC and its Standby Remedial Contractor are given in Section 4.0 of this Scope of Work. The NYSDEC is the lead agency for this Site Characterization.

2.0 SITE DESCRIPTION

The Commerce Square site is located in the City of Lockport and is bounded on the north side by Walnut Street, on the east side by Erie Street, on the south side by Elmwood Avenue, and on the west side by Locust Street (refer to Figure 1for site location map). At present, most of the buildings are vacant, although portions are used by various small businesses for product storage, office space, and some light manufacturing

3.0 SITE HISTORY

The Commerce Square site was used from 1914 to 1987 by the Harrison Radiator Division of General Motors Corporation. The facility was used for the manufacture of copper and brass automobile parts including thermostats, vacuum and electrical switches, modulators, and heat exchangers. Processes reportedly included metal pressing; stamping and forming; metal finishing and assembly; tin and lead soldering and brazing; parts washing and degreasing; injection molding; painting; heat treating; tool design; and quality control testing. At the time of plant closure, most of the equipment, materials, and other items were removed and either sold or transferred to another Harrison Radiator facility.

Phase I and Phase II Environmental Site Assessments (ESAs) were completed in July 2006 and June 2009, respectively. They were done through a Niagara County USEPA Assessment Pilot grant, and were done to aid in the rehabilitation efforts of the subject site and support redevelopment

efforts in the area.

The Phase I examined the previous site closure documentation and evaluated potentially impacted areas of the site using existing site records. The Phase I documented the following environmental concerns associated with the previous site use: (1) use and storage of large quantities of liquids in underground storage tanks (USTs); (2) the potential for past discharges of solvents, paints, petroleum, and other materials used during the manufacture of automobile parts to the ground surface and/or interior building surfaces; (3) polychlorinated biphenyl (PCB) containing materials possibly remain in some transformers, light ballasts, and motors/turbines oil; (4) limited quantities of asbestos containing materials and lead-based paint are associated with the structures; and (5) parts cleaning and storage was reported in some outside areas, including an equipment cleaning station, a materials storage shipping and receiving area, and a storage shed for hazardous materials and wastes.

The Phase II included soil borings and soil sampling outside of the buildings, in the vicinity of the underground storage tanks (USTs). See Figure 3 for soil boring and reported UST locations. While the USTs were reportedly closed in place, some USTs in the Walnut Street right-of-way were later removed in 2005 as part of NYSDEC Spill #9975547 response work. This work reportedly removed three USTs and 145 tons of petroleum impacted soils from this area of the site.

The Phase II soil samples indicated that various VOCs and SVOCs were present in soils in the vicinity of the USTs, but concentrations of the VOC and SVOC contaminants were below Part 375 residential soil cleanup objectives. See Table 1 for a summary of the Phase II soil contaminant concentrations.

4.0 SCOPE OF WORK

The Site Characterization work will primarily entail work within the site buildings to determine if there have been impacts to the soils beneath the footprint of the buildings. Up to 60 floor locations will be marked and cored to allow the use of direct push soil sampling to depths up to 12 feet. In addition, six bedrock groundwater monitoring wells will be installed outside the site buildings. Specifically, the Department will task the Standby Remedial Contractor to complete the

following activities as part of the proposed Site Characterization:

1. Assist the NYSDEC field representative in marking interior building sampling locations;
2. Provide a generator, potable lighting, and a concrete coring drill to core holes in the building floors at proposed sampling locations;
3. Provide and mobilize a direct-push unit and operator to the site to complete approximately 60 soil borings to a depth of 8-12 feet;
4. Provide a qualified field technician to complete the soil boring logs, perform PID screening, collect soil samples, prepare request for analysis and chain of custody paperwork, and transport the samples to the analytical laboratory;
5. Provide a laborer and all materials necessary to mix, place, compact, and finish the high strength concrete repair made to all penetrations of the building floors;
6. Provide and mobilize a rotary drill rig to the site to install six flush mounted bedrock groundwater monitoring wells to a depth of 20-25 feet, to be completed with sealed road boxes;
7. Provide a geologist to complete stratigraphic logs and well construction diagrams during the well installation activities;
8. Provide technicians to develop, purge, and sample the 6 bedrock groundwater monitoring wells for VOCs; SVOCs, PCBs, and metals analysis;
9. Provide a qualified environmental scientist to review the analytical date and perform a data usability summary report for the soil and groundwater data from the site characterization;
10. subcontract with a surveyor licensed in the State of New York to generate a site base map that indicates the location of all soil boring locations and major building features (walls, interior columns, etc), as well as the location of the six bedrock groundwater monitoring wells. A copy of the original ground floor plan will be provided by the DEC for use in preparing the base map;

Specific details of the work to be completed during the Site Characterization, including those activities to be conducted by the Standby Remedial Contractor, are described in the following

sections.

4.1 Field Selection of Locations

The DEC project manger will discuss and consult with the Standby Remedial Contractor regarding access and clearance issues when selecting the soil boring and monitoring well locations. The Standby Remedial Contractor will assist the DEC project manager in measuring distances and marking boring locations. The Standby Remedial Contractor will necessary lighting and a 200 foot tape and fluorescent vertical marking spray-paint cans for use in marking locations.

4.2 Soil Boring Program

The direct push soil boring locations will be performed at locations selected and marked in consultation with, and at the direction of, the DEC project manager. Approximate locations are shown on Figure 3, the final locations of the soil boring locations will be determined in the field by the NYSDEC project manager.

4.3 Soil Sample Collection and Analysis

Using direct-push technology, continuous soil cores shall be collected with dedicated acetate liners. The Standby Remedial Contractor shall be responsible for opening these liners. Each boring shall be advanced to approximately 8-12 feet in depth (until refusal), for the purpose of geologic logging and subsurface soil collection. Soil cores shall be screened for organic vapors using a photoionization detector (PID) supplied by the Standby Remedial Contractor. Samples shall be collected from up to 60 of the borings from the most contaminated interval (based upon instrument readings, visible staining, odors, etc.) for chemical analysis. For planning purposes, up to 30 locations will be sampled for VOCs, SVOCs, PCBs, and metals analysis. Multiple soil samples may be collected from an individual location if multiple or distinct zones of gross contamination are encountered.

Samples shall be collected by the Standby Remedial Contractor after consultation with the NYSDEC field representative and placed into laboratory supplied, pre-cleaned sample jars. The jars shall be labeled with a unique sample identification code, packed in a cooler with ice, and shipped under chain-of-custody control to either TestAmerica or Upstate Labs. All invoicing from either

TestAmerica or Upstate Labs shall be completed in accordance with its Standby Contract with the NYSDEC.

4.4 Restoration of Concrete Floor/Soil Disposal

Upon completion of the soil boring program, the Standby Remedial Contractor shall backfill each soil boring with soil from the samples. After placement, the soils will be compacted to the extent possible (but at least to the approximate depth of the original floor), and the hole in the concrete floor will be filled and manually compacted with high strength concrete. The Standby Remedial Contractor shall be responsible for restoring the floor surface to a smooth concrete surface similar to that encountered at each location prior to the start of the work. All excess soil material from the samples shall be placed in one 55-gallon drum for later disposal. The Standby Remedial Contractor shall supply the drum and will be responsible for disposal of the excess material.

4.5 Descriptive Logging of Soils

All logging of soil types shall be completed by a qualified technician or geologist employed by the Standby Remedial Contractor. At the completion of the Site Characterization field activities, the Standby Remedial Contractor shall computer generate these soil boring logs and submit them to the NYSDEC in both hard copy and electronic formats.

4.6 Monitoring Wells

Based upon previous characterization work, the overburden soils at the site are known to be comprised primarily of low conductivity reddish-brown native clay. Given the shallow thickness and low conductivity of the overburden soils, and the fact that overburden groundwater has not been encountered during previous activities at the site, groundwater is likely limited to that within the bedrock. Therefore, groundwater quality and flow patterns within the upper bedrock will be assessed through the installation and sampling of six new bedrock groundwater monitoring wells. Figure 3 shows the approximate locations of these wells, however these locations may be modified based upon utility locations and other access restrictions.. The groundwater monitoring wells will be installed into the uppermost bedrock zone that contains groundwater.

The Standby Remedial Contractor shall be responsible for identifying and avoiding all

underground utility lines in the areas where monitoring wells are to be installed.

4.6.1 Well Construction

The bedrock groundwater monitoring wells shall be installed as flush mounted wells with sealed, lockable road boxes, unless otherwise approved by the NYSDEC field representative. The monitoring wells will be installed by advancing a 6 1/4 -inch diameter augers to the top of bedrock (approx. 10 feet below grade). Upon auger refusal, the upper 5 feet of bedrock will be cored with an HQ core barrel, then reamed to a 6-inch diameter using a tri-cone roller bit to create a rock socket. A 4 inch diameter steel casing will then be grouted into the bedrock and allowed to cure for at least 24 hours before coring. The bedrock will then be cored using HQ coring equipment. All wells shall be constructed of 2" diameter threaded/flush joint Schedule 40 PVC screen (10 slot), threaded bottom plugs, and flush-threaded PVC riser pipe. An appropriately graded silica sand filter pack shall be placed around the screen and extend to approximately 2' above the screen. A 2' thick seal of bentonite pellets shall be placed above the filter pack, followed by a cement/5% bentonite grout mixture to grade. The bentonite pellets shall be allowed to hydrate prior to placing the cement/bentonite grout.

4.6.2 *Geologic Logging and Well Construction Diagrams*

All geologic logging shall be completed by a geologist employed by the Standby Remedial Contractor. The geologist shall also be responsible for completing well construction diagrams. At the completion of the Site Characterization field activities, the Standby Remedial Contractor shall computer generate these logs and diagrams, and submit them to the NYSDEC in both hard copy and electronic formats.

4.6.3 *Well Development*

Each monitoring well shall be developed, to the extent practicable, by bailing or pumping. A minimum of10 well volumes shall be removed during well development, with the purged water monitored for pH, temperature, conductivity and turbidity. These data will be recorded on Well Development Logs. If it appears that turbidity, pH, and conductivity are stabilizing and will benefit from further development, additional well volumes shall be

purged. All well development activities shall be completed by the Standby Remedial Contractor. Well development water will be temporarily stored in 55 gallon drums and then discharged to a City approved sanitary or combined sewer inlet location at the direction of the NYSDEC field representative. At the completion of the Site Characterization field activities, the Standby Remedial Contractor shall computer generate the Well Development Logs and submit them to the NYSDEC in both hard copy and electronic formats.

4.6.4 *Sample Collection and Analysis*

All well sampling will be performed by the Standby Remedial Contractor. The sample analysis will be performed by either Test America or Upstate Laboratories, with invoicing to the NYSDEC consistent with standby laboratory procedures. Groundwater samples shall be collected from each of the monitoring wells installed during the Site Characterization. Prior to sampling, the wells shall be purged of at least three (3) well volumes, with the purged water monitored for pH, temperature, conductivity and turbidity. If it appears that turbidity, pH, and conductivity are stabilizing and will benefit from further purging, additional well volumes shall be purged. If the turbidity is greater than 50 NTU after purging, the well shall be sampled for all parameters except metals, which shall be collected within 24 hours after the completion of purging. This technique is intended to reduce the amount of suspended sediment in the metals sample. All purging activities shall be completed by the Standby Remedial Contractor with dedicated disposable bailers, a submersible pump deconed between well locations, or other appropriate purging method.

The groundwater samples shall be collected by the Standby Remedial Contractor with dedicated disposable bailers and placed into laboratory supplied, pre-cleaned sample jars. The jars shall be labeled with a unique sample identification code, packed in a cooler with ice, and shipped under chain-of-custody control to TestAmerica or Upstate Laboratories. The Standby Remedial Contractor shall be responsible for obtaining the appropriate sample bottles from the lab, preparing all laboratory requests and chain of custody forms. All invoicing from TestAmerica shall be completed in accordance with its Standby Contract with the NYSDEC. At the completion of the Site Characterization field activities, the Standby Remedial Contractor shall submit both paper copies and electronic copies of the

request for analysis and chain of custody paperwork prepared with the samples.

All groundwater samples shall be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL metals.

4.7 Survey and Mapping of Boring Locations

An original drawing of the ground floors of the site buildings will be provided. The Standby Remedial Contractor shall retain a surveyor licensed in the State of New York to complete a survey and base map of the boring and monitoring well locations.

Following the completion of the Site Characterization field activities, the surveyor shall be tasked to survey the following:

- horizontal locations and surface elevations of the soil boring locations; and
- horizontal locations and vertical elevations of the six bedrock groundwater monitoring wells. This shall include the ground surface elevation and the elevation of the inner PVC riser of each well.

Vertical control shall be established to the nearest ±0.1 foot for all ground surface elevations. Monitoring well riser elevations shall be reported to the nearest ±0.01 foot. Elevations shall be determined relative to the North American Vertical Datum of 1988 (NAVD 88), with reference made to an existing monument in the vicinity of the site. Horizontal coordinates shall be given in the State Plane East Zone (feet), North American Datum (NAD) of 1983 to an accuracy of ±0.5 foot.

Vertical elevation information of other site features is not required as part of the base map preparation. The base map shall also include major building interior features, such as the location of building walls and columns. The base map shall be developed in AutoCAD format (version 2005 or earlier). The surveyor shall submit the final maps to the NYSDEC in both hard copy and electronic formats (AutoCAD version 2005 or earlier).

4.8 Health & Safety

It is anticipated that all field work can be performed in Level D personal protective equipment. All field work shall be conducted in accordance with the Health and Safety Plan included in Appendix A. The Standby Remedial Contractor shall provide appropriate personal protective equipment (PPE) suitable for working with potentially contaminated soils in unheated and unlighted conditions.

All field personnel shall be informed of the location of the hospital listed in Appendix A, and be made aware of the list of emergency contacts contained therein. Field supervisory personnel shall become thoroughly familiar with the route to the hospital.

4.9 Decontamination

The direct-push vehicle and sampling equipment and the drill rig shall be decontaminated prior to the implementation of any field activities. Reusable sampling equipment shall also be decontaminated as necessary between sampling locations. Decontamination wastes, used PPE, sampling equipment and garbage generated during the project shall be bagged or containerized in 55-gallon drums and removed from the site at the end of the field work. Construction of a decon pad will not be required for this project.

4.10 Data Usability Summary Report (DUSR)

Following the completion of field activities, a Data Usability Summary Report (DUSR) shall be prepared by an Environmental Scientist having a Bachelors Degree in a relevant natural or physical science or field of engineering and also having experience in environmental sampling, analysis and data review. The DUSR provides a thorough evaluation of analytical data without the costly and time consuming process of third party data validation. The primary objective of the DUSR is to determine whether or not the data, as presented, meets the site specific criteria for data quality and data use. The Standby Remedial Contractor shall retain an individual qualified to complete a DUSR.

The DUSR is developed by reviewing and evaluating the analytical data packages. During the course of this review the following questions must be asked and answered:

- Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?
- Have all holding times been met?
- Do all QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?
- Have all data been generated using established and agreed upon analytical protocols?
- Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?
- Have the correct data qualifiers been used?

Any Quality Control exceedances must be numerically specified in the DUSR with the corresponding QC summary sheet from the data package attached to the DUSR. All data that would be rejected by the EPA Region 2 Data Validation Guidelines must also be rejected in the DUSR.

Once the data package has been reviewed and the above questions asked and answered the DUSR proceeds to describe the samples and the analytical parameters. Data deficiencies, analytical protocol deviations and quality control problems are identified and their effect on the data shall be discussed. The DUSR shall also include recommendations on resampling/reanalysis. All data qualifications must be documented following the NYSDEC ASP (1995 revision) guidelines.

4.11 Deliverables

Following the completion of field activities, the Standby Remedial Contractor will submit the following deliverables, in both hard copies and electronic copies (in formats previously noted):

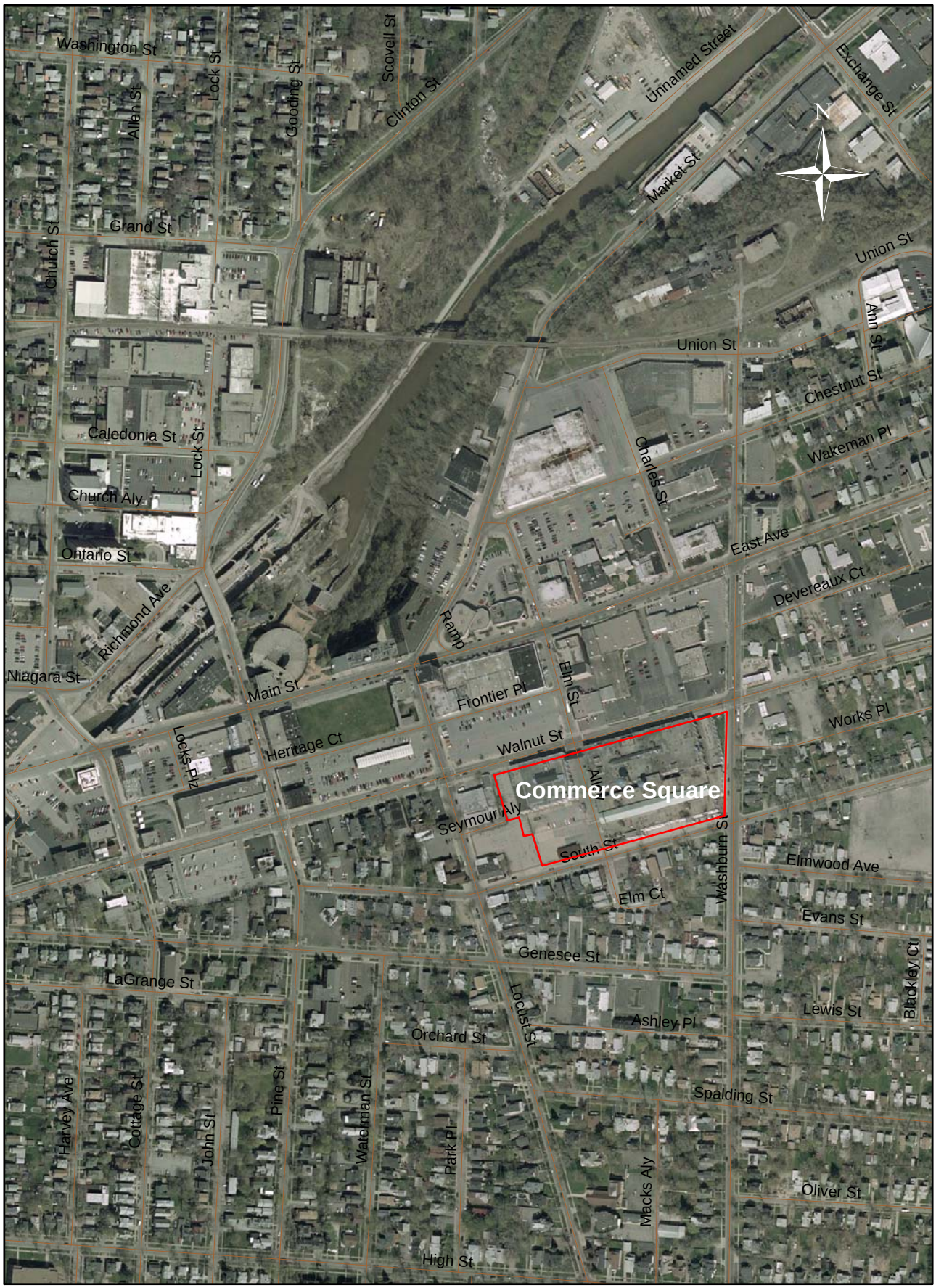
- A base map prepared by a licensed surveyor which depicts the location and elevations of the monitoring wells, and the location of the soil borings and major building features within the site buildings;
- Computer generated soil and well boring logs and well construction diagrams;
- Well development logs;
- Records documenting the disposal of the excess soils from the soil borings and the

installation of the monitoring wells;

- Copies of all laboratory request for analysis paperwork and all chain of custody paperwork;
- All data from soil and groundwater samples collected at the site; and
- The data usability summary report (DUSR).

The NYSDEC will prepare a Site Characterization Report that details the results of the site characterization work.

Figure 1
Commerce Square - Site Location



Approximate Scale: 1 inch = 500 feet

Figure 2
Commerce Square - Site Buildings

Approximate Scale: 1 inch = 170 feet

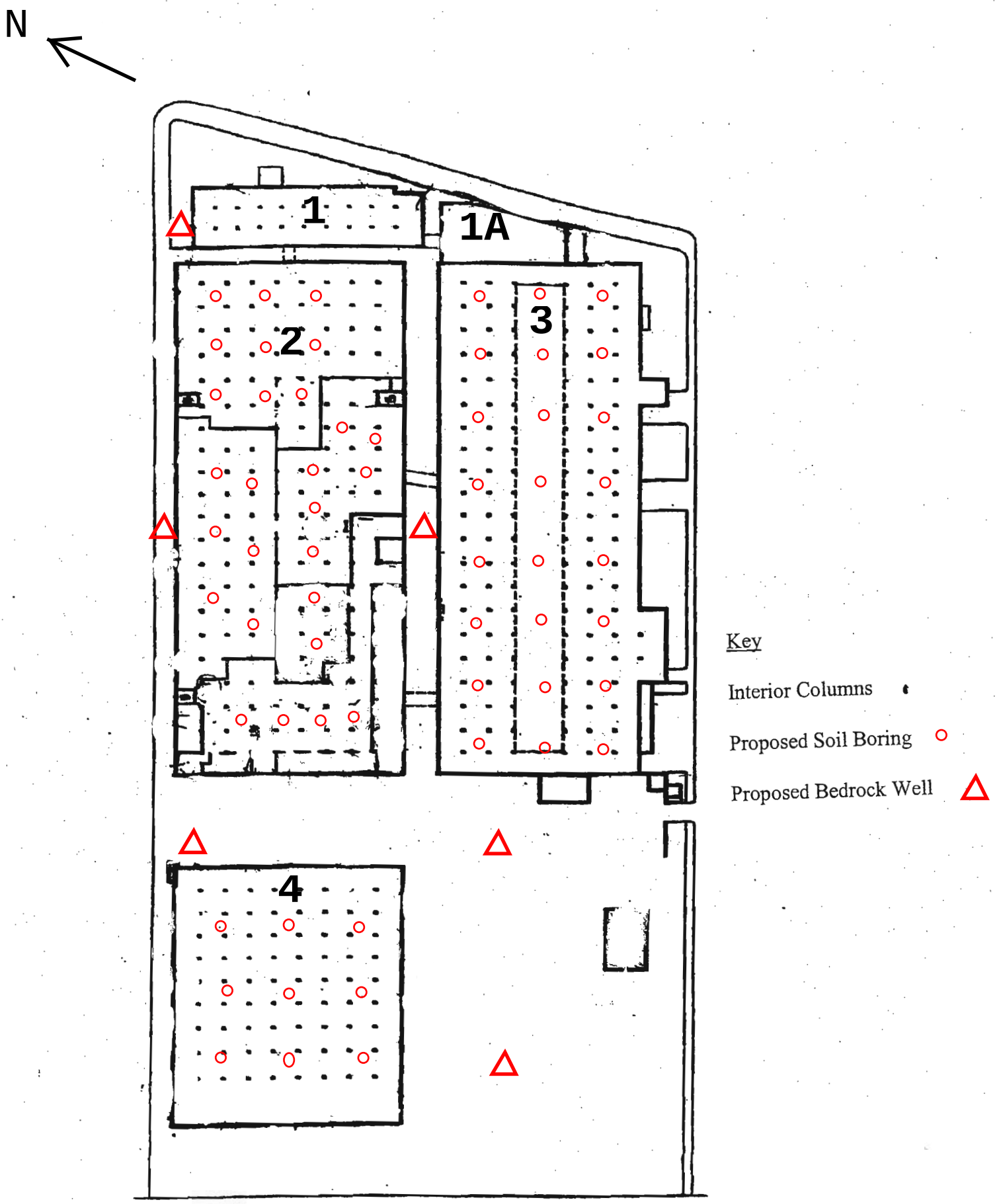


Figure **3**
Commerce Square Site Characterization
Proposed Soil Boring and Bedrock Monitoring Well Locations

APPENDIX A

HEALTH AND SAFETY PLAN

This Health and Safety Plan was developed for use by all personnel involved in the Site Characterization of the Commerce Square Site. This plan provides only general guidance that should be supplemented by the Standby Remedial Contractor's corporate Health and Safety Plan.

General Health and Safety Guidelines

All work should be conducted in accordance with standard health and safety procedures for hazardous waste site work. All Personnel must have the 40-hour HAZWOPER training certification as required by 29 CFR 1910.120, and maintain this training by taking the annual 8-hour Refresher Course. The Standby Remedial contractor shall provide, as necessary, appropriate personal protective equipment (PPE) suitable for working in and around contaminated soils. The Standby Remedial Contractor shall supply a photoionization detector (PID) for monitoring organic vapors, which shall be utilized to screen sampled soils.

It is anticipated that all field work can be performed in Level D personal protective equipment: steel toe shoes/boots, hard hat and latex gloves. The Standby Remedial Contractor shall ensure that sufficient personal protective equipment is available for all personnel prior to entering the site buildings. All appropriate PPE shall be donned, used and removed as described in the 40-hour training course.

Emergency Telephone Numbers

This section includes a list of emergency telephone numbers for use by all personnel involved in the Site Characterization of the Commerce Square Site.

Niagara County Sheriff's Department	(716) 438-3393
Emergency Services	911
Lockport Memorial Hospital	(716) 514-5561
Poison Control Center	(800) 222-1222
Chemical Manufacturers Association Chemical Referral Center	(800) 262-8200
NYSDEC Region 9: Gregory Sutton	(716) 851-7220
NYSDOH Western Regional Office: Matthew Forcucci	(716) 847-4500
Niagara Company Health Department: Paul Dicky	(716) 439-7595
Underground Facilities Protective Org. (UFPO)	(800) 962-7962

Medical Assistance

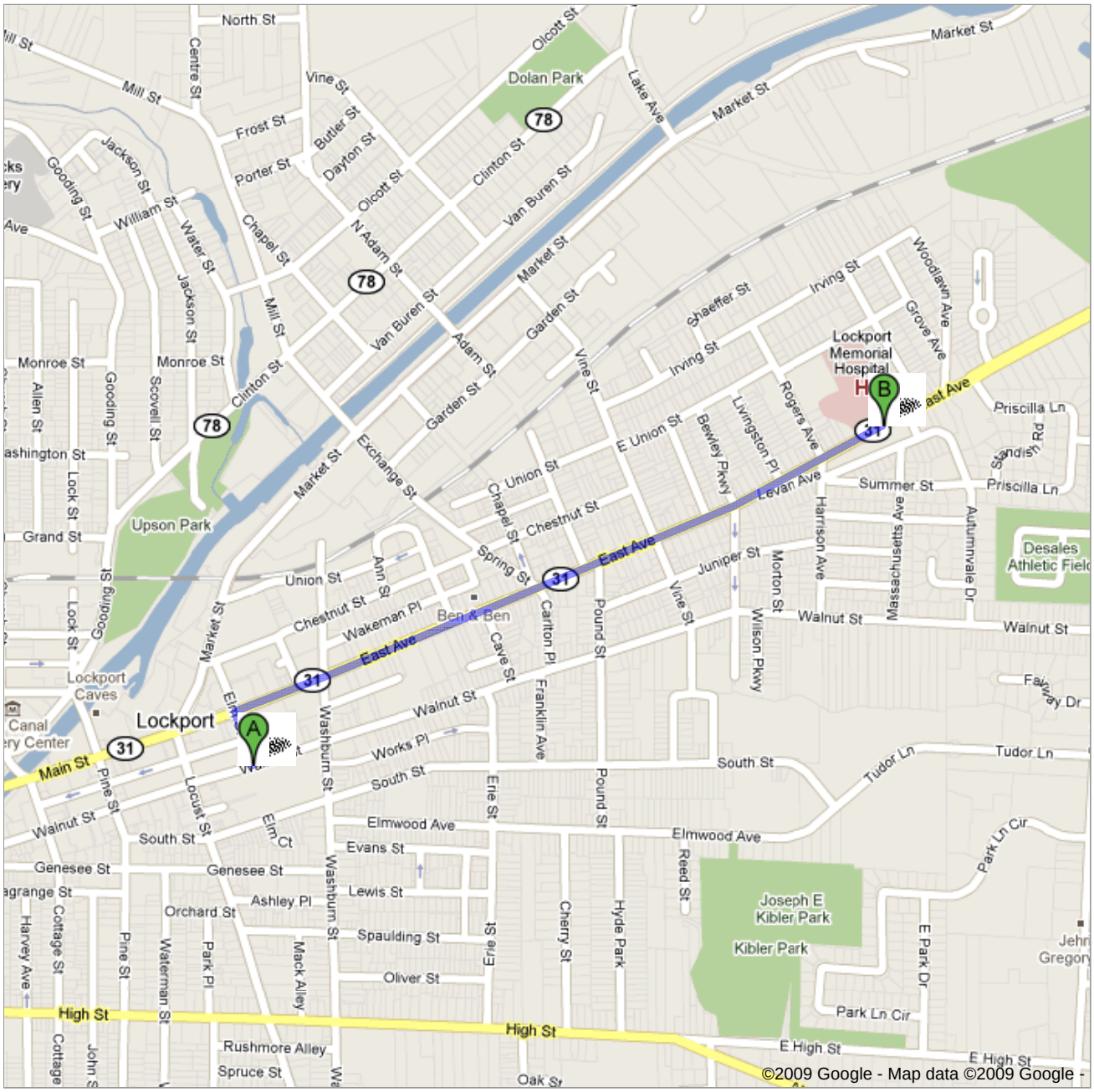
The primary source of medical assistance during the Site Characterization of the Commerce Square Site is the following:

Lockport Memorial Hospital
521 East Avenue
Lockport, New York 14094
Phone: (716) 514-5561

This hospital is located approximately 1 mile east of the site. All personnel shall be familiar with the location of this hospital and know how to get there from the site. Directions to the hospital are given on the following page.

Google maps

Directions to 521 East Ave, Lockport, NY 14094
1.1 mi – about **2 mins**



210 Walnut St, Lockport, NY 14094

1.	Head **west** on **Walnut St** toward **Elm St**	go 7 ft total 7 ft
2.	Take the 1st **right** onto **Elm St**	go 420 ft total 427 ft
3.	Take the 1st **right** onto **East Ave** Destination will be on the left About 2 mins	go 1.0 mi total 1.1 mi

521 East Ave, Lockport, NY 14094

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.