Environmental Restoration Program

Orchard-Whitney Site (#E828123)

415 Orchard Street & 354 Whitney Street
City of Rochester
Monroe County, New York

Interim Remedial Measure Work Plan
Health and Safety Plan
Community Air Monitor Plan

Prepared for:

City of Rochester
Division of Environmental Quality
30 Church Street
Rochester, New York 14614

Prepared by:

LU ENGINEERS
Civil and Environmental

2230 Penfield Road
Penfield, New York 14526

September 2007

Environmental Restoration Program
Orchard-Whitney Site (#E828123)
415 Orchard Street – 354 Whitney Street
City of Rochester
Monroe County, New York

Interim Remedial Measures

Work Plan

Prepared For:

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Project No. 4216

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1.0 Introduction

Lu Engineers has prepared this Interim Remedial Measures Work Plan for the City of Rochester (The City) for submission to the New York State Department of Environmental Conservation (NYSDEC) Region 8 Division of Environmental Remediation in accordance with DER-10 "Technical Guidance for Site Investigation and Remediation," the NYSDEC "Municipal Assistance for Environmental Restoration Projects" Procedures Handbook and TAGM 4048 "Interim Remedial Measures-Procedures."

The City has received a State Assistance Contract (SAC) from the NYSDEC to further characterize and cleanup the Orchard-Whitney Site located in the City of Rochester. The City will use a portion of these funds to complete interim remedial measures described in this Plan.

The work described herein is intended to remove contaminated and hazardous materials located within the structure to be demolished at 354 Whitney Street. Site inspections conducted in the summer and fall of 2006 revealed the presence of a variety of contaminated and potentially hazardous wastes that will require removal and proper disposal prior to the demolition of 354 Whitney Street. A summary of the materials requiring special handling and disposal is provided in Section 2.3. These materials include drummed wastes, oil contained in machinery, paints and solvents, ash residues, electronics wastes among other waste types.

Remedial investigation work began with Site inspections in summer and fall of 2006. The project was been delayed due to contract issues relating to demolition of 354 Orchard Street and the associated asbestos abatement.

Brief summaries of previous environmental reports are summarized below. Lu Engineers used this information and remedial investigation findings to date to prepare this Work Plan.

1.1 Site Description

The Orchard-Whitney site (Site) is located at 415 Orchard Street and 354 Whitney Street in the City of Rochester, New York (Figure 1). The Site has a combined area of 3.9 acres and is located near the intersection of Lyell Avenue and Broad Street. One multi-story structure of approximately 128,900 square feet remains on the Whitney Street property. This building is partially demolished due to damage sustained during a fire in 2003. There is also one multi-story structure of approximately 371,600 square feet located on the Orchard Street property. An aerial base map showing current Site conditions is included as Figure 2.

The Orchard-Whitney Site is located in the City of Rochester North West Quadrant. Residential and commercial properties surround the Site.

Topography
The topographic relief of the Site is 525 feet above mean sea level. The Site is relatively flat with the exception of the property to the immediate south being a raised railroad bed, approximately 5-8 feet above ground surface. Other features of note are the former Erie Canal and the Genesee River Gorge located to the east.

Surface Water
Surface water runoff at the Site is collected in the Monroe County Sewer System. There are no surface water bodies within one-half mile radius of the Site. There are no public/private drinking water supply wells within one-half mile of the Site.

Groundwater
Based on local topography, groundwater at the Site is most likely influenced by the former Erie Canal and the Genesee River Gorge and is expected to be northeasterly. There have been six (6) groundwater monitoring wells installed at the Site by the NYSDEC; the information on these wells was not available at the time of this Work Plan.

Geology
According to the New York State Museum Map of New York Finger Lakes Sheet, native soils beneath the Site consist mainly of lucustrine sands and silts; soils are underlain by dolostones of the Lockport Group. Based on previous Site assessments, bedrock is typically present between 10 and 15 feet below ground surface.

Land Use/Sensitive Receptors
The area surrounding the Site is mainly residential and commercial; some light industrial is also present. There is also a railroad bed to the immediate south. Edgerton Park is located to the north of the Site, and the new PAETEC Park Stadium is located to the southeast.

Facilities serving children in the vicinity of the project include: Rochester City Schools Elementary Level Nos. 5, 17, 30, 57, Jefferson Secondary School and Jefferson High School. Facilities also serving the needs of elderly persons include Jefferson High School and Edgerton Community Center.

2.0 Summary of Environmental Conditions

2.1 Site History

The Site has been used for various commercial and industrial uses since the early 1900s. From 1915 to 1922, the North East Electric Company operated on the Site. General Motors occupied the Site from 1930 to 1967. Industrial activities including the production of electrical equipment, heat treating, plating, coal storage, boiler operations, petroleum fuel storage and industrial wastewater treatment were performed on the Site.

After General Motors closed operations, other industrial operations took place at the Site including, metal finishing, synthetic foam production, printing, plastics manufacturing and warehousing. These operations took place at the Site until the early 1990s.

The current Site owners have been non-responsive, and although the City has offered the parcels at tax delinquent auctions, no viable developers have shown interest.

2.2 Previous Field Investigations

Since 2000, the Site has undergone a series of environmental investigations. These investigations include:

- December 2000: Phase I Environmental Site Assessment; 354 Whitney Street, 415 Orchard Street, and surrounding properties at 367, 370, and 406 Orchard Street.
- August 2003: Pre-demolition Asbestos Inspection of 354 Whitney Street Building 1A.
- August 2003: Pre-demolition Asbestos Inspection of 354 Whitney Street Building 2/2A/Brick Mill.
- 2005: Phase II Site Investigation completed by NYSDEC on the 354 Whitney Street parcel as part of a USEPA Targeted Brownfield Assessment.

Phase I Site Assessment, 2000
The environmental site assessment performed by Day Environmental (2000) identified a number of environmental concerns including:

- Past use of the facility for industrial and manufacturing purposes;
- The presence of aboveground and underground storage tanks and associated piping;
- Suspect asbestos containing materials (ACM);
- Former coal storage piles and visible leachate;
- Floor drains;
- Containers with unknown contents;
- Suspect PCB-containing equipment;
- Stained flooring;
- A potential on-site wastewater treatment system; and
- Petroleum and several hazardous substances above NYSDEC groundwater quality standards in on-site groundwater monitoring wells (installation date, construction details unknown).

Based on their findings, Day Environmental recommended additional investigation to further characterize the Site.

Asbestos Pre-demolition Surveys, 2003 and 2006
An asbestos pre-demolition survey was completed on the Whitney Street site by ENSR, Incorporated. A pre-demolition survey for the Orchard Street Site was completed by Lu Engineers in 2006.

NYSDEC Investigation, 2005
The NYSDEC completed an environmental investigation on the Whitney Street parcel under the USEPA Targeted Brownfield Assessment Program. According to Mr. Todd Caffoe of the NYSDEC, the data from this investigation is not yet available in written form. Mr. Caffoe did tell Lu Engineers that surface soil sampling results indicated trace amounts of PCBs and groundwater sample results did not show significant amounts of hazardous substances or petroleum. Mr. Caffoe suggested that an additional round of groundwater sampling be incorporated into this investigation for wells installed by the NYSDEC.

2.3 Current Remedial Investigation

The current Remedial Investigation (RI) is being conducted to identify the vertical and horizontal extent of contamination in order to develop remedial alternatives for the Site. The following work tasks are in the process of being completed to satisfy the above described objectives:

Pre-Demolition Phase
The pre-demolition phase was completed in February 2007 and included the following:

- PCB assessment of all existing facility equipment including, but not limited to, hydraulic lifts, electrical equipment, ballast and bulbs, oily residues in facility drip pans, melt-water and flooding in the Engine Room of 354 Whitney Street, and liquid materials in floor drains and trenches.
- A full hazardous materials inventory including sampling for waste characterization to identify all materials requiring appropriate disposal prior to demolition.
- An asbestos pre-demolition survey at 415 Orchard Street.
- A limited lead inspection and sampling for both 354 Whitney and 415 Orchard.

Post-Demolition Phase
Once demolition of the 354 Orchard Street buildings has been completed, the following tasks will be accomplished:

- Completion of 10 to 15 test trenches to further evaluate subsurface conditions across the Site.
- Install groundwater monitoring wells (15 estimated) to evaluate groundwater quality, characteristics and flow information.
- Obtain groundwater samples from existing and newly installed wells.
- Complete background soil borings (5 estimated) at off-site locations (to be determined) to establish local background concentrations for metals and PAHs.

- Obtain surface soil samples across the property, using a grid based system to evaluate exposure routes as required by the New York State Department of Health (NYSDOH).
- Sampling of coal spoils located along the railroad that runs along the southern Site boundary.
- Survey sampling locations and groundwater monitoring wells and obtain elevations to water and hydraulic conductivity measurements for all on-site wells.

Sampling and Investigation Findings Summary
Samples of potential hazardous materials were obtained from the Whitney Street site on August 30 and 31, 2006. Additional samples were also collected on September 8, 2006 and October 16, 2006.

The following is a list of the items/areas of concern for the waste removal required as part of asbestos abatement and demolition of the Whitney Street Site. The items listed below correspond to the locations noted on the Hazardous Material Sampling/Removal Plans as Figures 3 through 6.

A) PCBs were not detected in surface wipes, concrete chip samples or oil samples. The location of the oil-containing equipment and containers is noted on the referenced figures.

B) Material located in the sandblast hood in the vehicle repair bay contained hazardous waste levels of RCRA Metals.

C) The hydraulic lift system and associated pipe trenches located in the vehicle repair bay were unable to be accessed; this system is below grade and not anticipated to be encountered during demolition.

D) The overhead crane and the window mechanisms located in the Engine Room were not accessible for sampling, but may contain small quantities of lubricating oils.

E) No oils or other hazardous materials were observed in the upper level electrical equipment of the Engine Room.

F) The wood block flooring located in between the vehicle repair area and the Engine Room is not hazardous waste.

G) Two hoppers are located on the roof, one on the south east section and one on top of the north elevator gear house. These hoppers were not accessible for sampling due to structural concerns with the roof. The hoppers appear to be empty.

H) All ash material sampled from the boiler, the flue duct leading from the boilers to the stack, and from the inside of the stack exceeds hazardous waste toxicity characteristic criteria due to elevated concentrations of arsenic. However, this material is exempt from designation as hazardous waste in accordance with 40 CFR Part 261.4 since the material is as result of coal combustion for electricity generation.

I) The sediment located in the north floor drain of the vehicle repair bay is hazardous waste due to elevated concentrations of RCRA Metals. This material is below grade and is not anticipated to be encountered during this phase of demolition.

J) The three water samples from the flooded tunnel/basement area did not contain detectable levels of PCBs. Lu Engineers was not able to sample sediment located in these areas at that time, but since the area is below grade it is not anticipated to be encountered during this phase of demolition.

K) The South Elevator was inaccessible for sampling, and only the gear house of the north elevator was inspected. The remaining portions of these elevator systems, along with an air handling unit on the south east roof of the Brick Mill, may contain oils or hazardous substances.

L) The tunnel beneath the location of the former location of Building 3, accessible only from the courtyard, contained approximately 6 unknown drums and another approximately 18 empty drums.

M) One unknown wooden drum and one 55-gal oil drum are located adjacent to the east wall of the boiler room. One 55-gal drum is also located in the northwest portion of the second floor. Approximately 10 small (3 to 5-gallon) containers are also located in the room located beneath the smoke stack within the boiler room.

N) Debris piles were located in several areas that will require additional evaluation to determine if they contain hazardous materials.

O) An initial inventory of the building found approximately 130 PCB-containing ballasts and 160 unknown but suspect PCB-containing ballasts.

P) An initial inventory of indicated approximately 200 fluorescent bulbs that will require special handling due to mercury content.

Q) Three transformers are located on the 6th floor exterior of the Orchard Street Building between the southeast staircase and the south east elevator, approximately 50 feet above the adjacent ground surface. These transformers are located within a metal rack system which is attached to the exterior masonry wall

of the building. The stability of these transformers is highly suspect. Each unit is cylindrical and measures approximately 50 inches tall by approximately 30 inches in diameter. Based on past experience, it is assumed that the transformers may weigh as much as 2,000 pounds each. Research indicates that the transformers are not owned by Rochester Gas and Electric Corporation. These transformers are considered to be susceptible to disturbance during the demolition process and will require removal and appropriate handling and disposal.

R) Various paint, solvent, oil and other containers located throughout the building will be staged for screening and characterization for disposal. Prior to the screening and characterization, these paints and related materials will be designated with orange marking paint to facilitate identification by the contractor.

S) Approximately 20 bags of populated circuit board wastes are located in the passageway between the Engine Room and the Boiler Room. These materials should be recycled.

T) Pigeon droppings are located in varying amounts on the majority of interior building surfaces. Care should be exercised during demolition to prevent excessive disturbance of pigeon droppings and release of resultant airborne dusts.

2.4 Conceptual Site Model

Potential site contamination is related to a variety of industrial activities over a period of many years. A conceptual site model for the project is outlined in the table below.

Media	Known or Suspected Source of Contamination	Type of Compounds (General)	Contaminants of Potential Concern (Specific)	Primary or Secondary Source Release Mechanism	Migration Pathways	Potential Receptors
Soil	1) Paint Booths 2) Petroleum storage tanks 3) Plating operations 4) Waste oils 5) Wastewater	Metals, solvents, fuels, PCBs	Arsenic; Cadmium; Chromium; Lead; Mercury; Acetone; Ethylbenzene; Methylene Chloride; Toluene; Xylene: PCBs	Leaks and spills	Infiltration / percolation	Human: direct contact if excavation occurs in contaminated areas
Groundwater	Contaminated Soil (secondary source)	Metals, solvents, fuels	Cadmium; Chromium; Lead; Mercury; Benzene; Ethylbenzene; Isopropylbenzene; Napthalene; 1,2,4 TMB; 1,3,5 TMB; Xylene, PCBs	Infiltration or percolation from soils	Groundwater flow	Human or ecological receptors are not expected to be exposed
Air/Soil Vapor	Contaminated soil or groundwater under buildings	Solvents, fuels	BTEX	Volatilization of contaminated groundwater and/or soil	Migration into buildings	Human: Inhalation during investigation and cleanup

Media	Known or Suspected Source of Contamination	Type of Compounds (General)	Contaminants of Potential Concern (Specific)	Primary or Secondary Source Release Mechanism	Migration Pathways	Potential Receptors
Building	1) Transformer oil 2) Fluorescent light capacitors 3) Building materials 4) Ash 5) Drains and Trenches 6) Manufacturing equipment	PCBs, Asbestos, waste oils	PCBs, Asbestos, waste oils	Leaks/Spills, disturbance of building materials	Dispersion by human activity	Human: direct contact with site workers/ visitors, inhalation

Previous environmental investigations have revealed that volatile organic compounds (VOCs), several metals, and semi-volatile organic compounds (SVOCs) have been detected in subsurface soils and groundwater above NYSDEC Soil Guidance Values on the Whitney Street parcel. Information on the Orchard Street parcel is limited. There are no local private wells in the area of the Site and the surrounding community is on public water and sewer service.

3.0 Scope of Work

The removal, proper handling and disposal of the fluorescent light tubes and fixtures including ballasts shall be the responsibility of the demolition contractor as part of the demolition project. Lu Engineers will observe portions of this process. The Interim Remedial measures required in addition to the efforts required under the demolition contract for 354 Whitney Street include the following individual tasks:

Removal and Disposal of Sand Blast Waste
The contractor will remove the sand blast waste from the sandblast unit located on the first floor of the Whitney Street building (see "B" on Figure 3). This material will be containerized as appropriate for shipping as hazardous waste and staged in a secure location prior to transportation off site and appropriate disposal.

Removal and Disposal of Duct and Chimney Waste
Once the asbestos abatement process has been completed, the large smoke stack within and above the boiler room as well as associated ducts and flues will be demolished as specified by the City of Rochester. The rubble resulting from the stack demolition will be transported offsite in covered roll-off dumpsters and disposed at an approved facility. This effort is being handled as part of the demolition contract.

Handling and Staging of Miscellaneous Equipment
Equipment that may contain oils will be set aside in a central staging area by the demolition contractor for evaluation by Lu Engineers. Accessible oils will be sampled for the presence of PCBs. Based on this evaluation, special disposal as hazardous or otherwise contaminated waste may be necessary. If it is determined that certain equipment may contain hazardous or otherwise regulated wastes, Lu Engineers will assist the demolition contractor with facilitating the disposal process.

Removal and Disposal of Drums from Tunnel
The 6 drums containing unknown materials located in the tunnel between 415 Orchard and 354 Whitney will be over-packed in shippable containers and removed from the tunnel. It will be necessary for personnel to enter the tunnel for manual handling of these drums. The tunnel will be accessed via the window located on the courtyard side of the tunnel. The steel frame of the window will be removed to facilitate access.

The drums, currently stacked on pallets, will be manually moved to the floor of the tunnel for handling and over-packing. At a minimum, three personnel will be required for this process. All of the 6 drums with contents will be removed from the tunnel once the over-packing process has been completed. Empty drums will also be removed and staged with the over-packed drums in a central location to be determined.

Once these drums have been moved to a secure location, further evaluation including possible sampling and laboratory analysis will be conducted to determine the appropriate method of disposal. Based on that evaluation and/or sampling results, these wastes will be disposed of as appropriate.

Removal and Disposal of Wastes in Boiler Room
The presence of asbestos debris throughout the boiler room necessitates the decontamination of the waste containers prior to handling for disposal. Several options will be considered to allow access to these materials including long reach equipment access; penetration of the eastern wall of the boiler room; access by personnel directly; and aerial access. Every effort will be made to avoid disturbance of asbestos containing materials while this work is in progress. If asbestos disturbance becomes necessary, applicable regulations including NYSDOH Industrial Code Rule 56 and USEPA NESHAPs will be fully complied with. The proposed approach to completion of this task will be discussed with the City and NYSDEC for prior approval.

Whichever access approach is used, the containers will be decontaminated as appropriate to remove all asbestos contamination. Once removed from the boiler room area, these drums will be relocated into the central staging area, sampled as necessary and transferred into shippable over-pack drums for transport and disposal.

Detailed Inspection of Debris Piles
The waste pile identified on Figure 3 as "N", will be manually sorted and contaminated or potentially hazardous materials will be set aside for evaluation and appropriate transportation and disposal.

Removal and Disposal of Three Electrical Transformers
A crane will be used to access the transformers for removal from the 415 Orchard Street building. A professional rigging crew will be required for this process. The type and size of the required equipment will be determined with the contractor. The final approach will be discussed with the City and NYSDEC to verify approval prior to conducting the work.

Once the transformers have been lowered to the ground surface, they will be moved to a central, secure staging area and evaluated and sampled if possible for the presence of PCBs. Based on this evaluation, the transformers will be stabilized and secured for transportation and disposal.

Removal and Disposal of Miscellaneous Materials
Various paints, small containers of solvents and other materials indicated on Figure 3 as "R", will be collected and consolidated in to "lab pack" drums for transportation and disposal off site. These materials will be characterized to the extent possible for disposal purposes, but sampling is not anticipated to be necessary.

Removal and Recycling of Circuit Boards
The location of the circuit boards found during the inspection is indicated as "S" on Figure 3. These materials will be transported to a licensed used computer equipment recycler.

Central Staging Location
A secure location for the temporary staging of wastes prior to disposal will be set up within the Site boundaries. It is anticipated that a trailer-type storage unit would provide adequate storage capacity, security and weather resistance. Lu Engineers' contractor will be directed to provide, place and eventually remove the storage trailer unit.

3.1 Health and Safety Plans

Monitoring of the work area will be conducted as necessary throughout the duration of field activities to assure the safety of on-site workers. A copy of the Site-Specific Health and Safety Plan is provided as Appendix A.

A Community Air Monitoring Plan for the site work is attached as Appendix B.
Air monitoring of the work areas will be conducted using the following (or equivalent) instrumentation:

- An aerosol particulate meter
- An explosimeter
- A PID equipped with a 10.2 eV lamp (or equivalent)

3.2 QA/QC

To ensure that suitable and verifiable data results are obtained from the information collected at the Site, quality assurance procedures are detailed in a Quality Assurance Project Plan (QAPP). The QAPP was developed as part of the Remedial Investigation Work Plan and further details the activities and how they are designed to achieve the data quality objectives.

4.0 Project Organization

The personnel for this project are anticipated as follows:

Robert Elliott, PE	Project Director
Steve Campbell, CHMM	Project Manager
Susan Hilton, PE	Quality Assurance Officer
Greg Andrus, CHMM	Field Team Leader/Geologist
Eric Detweiler	Site Safety Officer
Rebecca May	Field Technician

Subcontractors
The following contractors will be used to complete the specified tasks:

Upstate Laboratories - (analytical laboratory services)
Titan Wrecking and Environmental, LLC – (waste access, over-packing and retrieval)
NYETECH – (on-site waste consolidation and handling)
Advanced Waste Solutions, Inc. – (contaminated/hazardous waste transportation and disposal)

5.0 Report

Once the contract laboratory has provided all analytical data and information has been evaluated, Lu Engineers will develop a report on the completed interim remedial measures. The report will be prepared as indicated by the following outline:

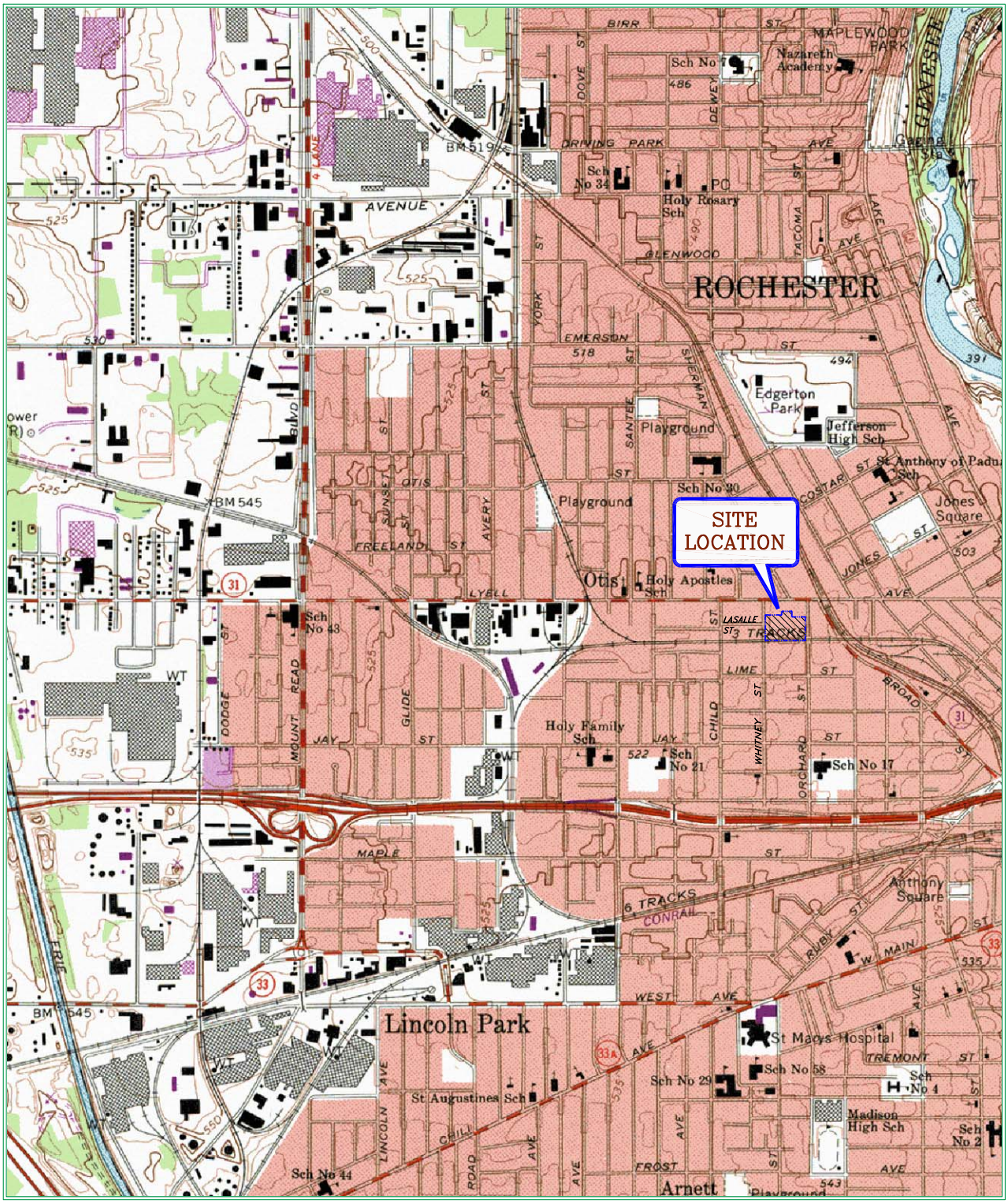
1.0 SUMMARY OF FIELD ACTIVITIES
2.0 CONTAMINATION EVALUATION
  2.1 Findings
  2.2 Data Evaluation
  2.3 Regulatory Review
  2.4 Exposure Pathways
3.0 CONCLUSIONS AND RECOMMENDATIONS

The report will carefully document all cleanup activities and analytical results and will be supplemented with photographic documentation.

6.0 Schedule

This portion of the project may require up to three months to complete. A Draft Interim Remedial Measures Report will be submitted to the NYSDEC for review in the Winter of 2008.

Figures



SCALE: 1" = 2000'

NEW YORK
QUADRANGLE LOCATION

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FIGURE 1. SITE LOCATION MAP

CITY OF ROCHESTER
REMEDIAL INVESTIGATION
415 ORCHARD / 354 WHITNEY

DATE:	SEPTEMBER 2006
SCALE:	1:24,000
DRAWN BY:	DLS
MAP SOURCE:	ROCHESTER WEST QUADRANGLE NEW YORK – MONROE COUNTY 7.5 MINUTE SERIES (TOPOGRAPHIC) 1971; PHOTOREVISED 1978

WHITNEY STREET

LYELL AVENUE

(OLD RR TRACKS)

ORCHARD STREET

LEGEND

MONITOR WELL

SOIL BORINGS

TEST TRENCHES

WASTE CHARACTERIZATION SAMPLES

N

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FIGURE 2. SAMPLE LOCATIONS

CITY OF ROCHESTER
REMEDIAL INVESTIGATION
415 ORCHARD / 354 WHITNEY

DATE:	AUGUST 2006
SCALE:	11x17 Scale: 1" = 60' 22x34 Scale: 1" = 30'
DRAWN BY:	DLS
MAP SOURCE:	NYS GIS CLEARINGHOUSE – NY STATE STATEWIDE DIGITAL ORTHOIMAGERY PROGRAM, HIGH RESOLUTION IMAGERY 2000–2005

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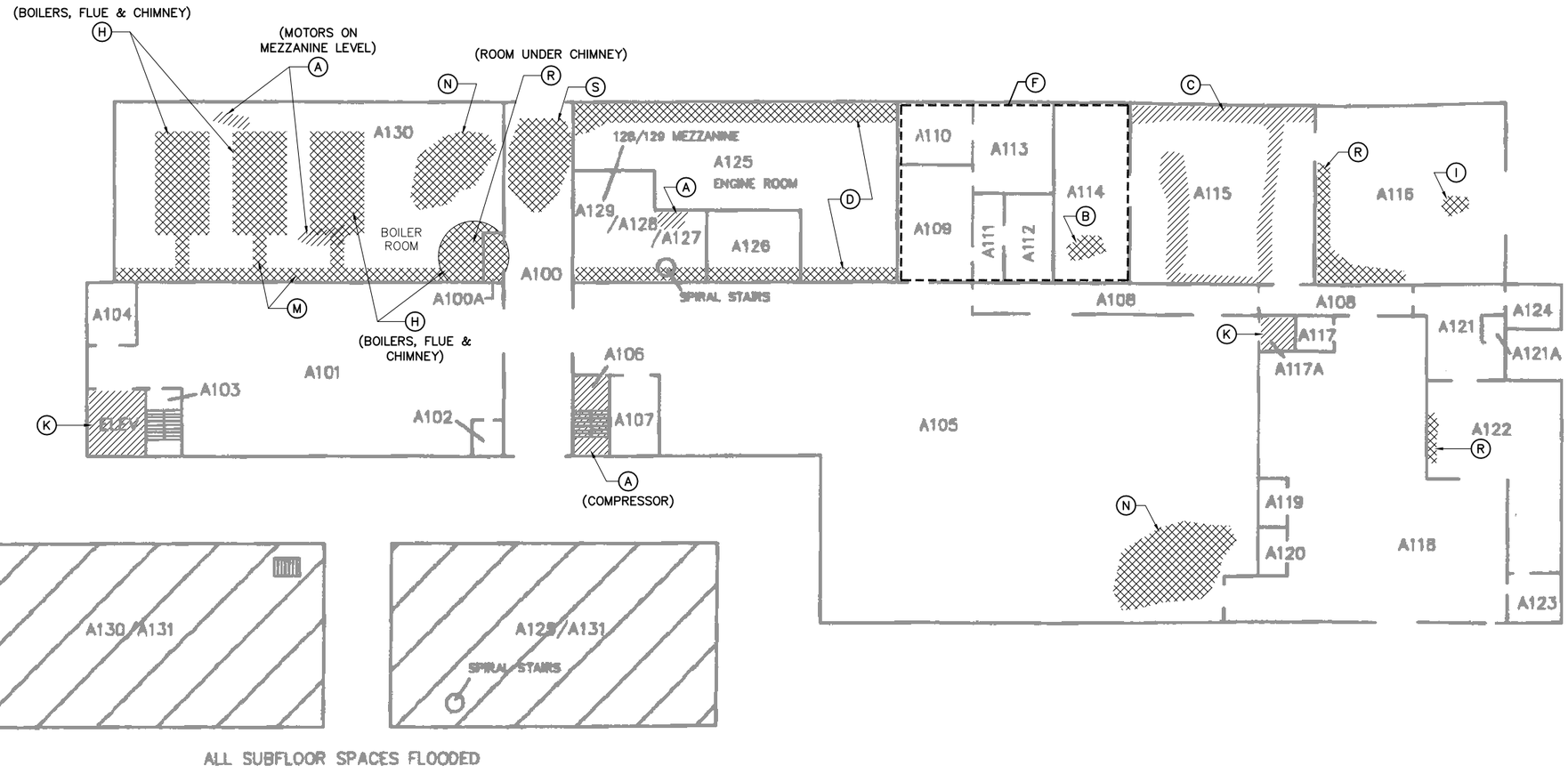

ALL SUBFLOOR SPACES FLOODED

FIRST FLOOR PLAN
BUILDING #2/2A/BRICKMILL
SCALE: 1" = 30'-0"

LEGEND

AREAS WITH POTENTIAL OIL-FILLED EQUIPMENT

AREAS OF HAZARDOUS MATERIALS FOR REMOVAL

*MATERIAL LOCATIONS ARE APPROXIMATE

FIGURE 3.
BUILDING #2/2A/BRICKMILL, FIRST FLOOR
CITY OF ROCHESTER
HAZARDOUS MATERIAL SAMPLING/REMOVAL
415 ORCHARD / 354 WHITNEY

DATE: JANUARY 2007
SCALE: 1" = 30'
DRAWN BY: DLS
MAP SOURCE: ENSR INTERNATIONAL ASBESTOS INSPECTION AT 354 WHITNEY ST., ROCHESTER, NEW YORK

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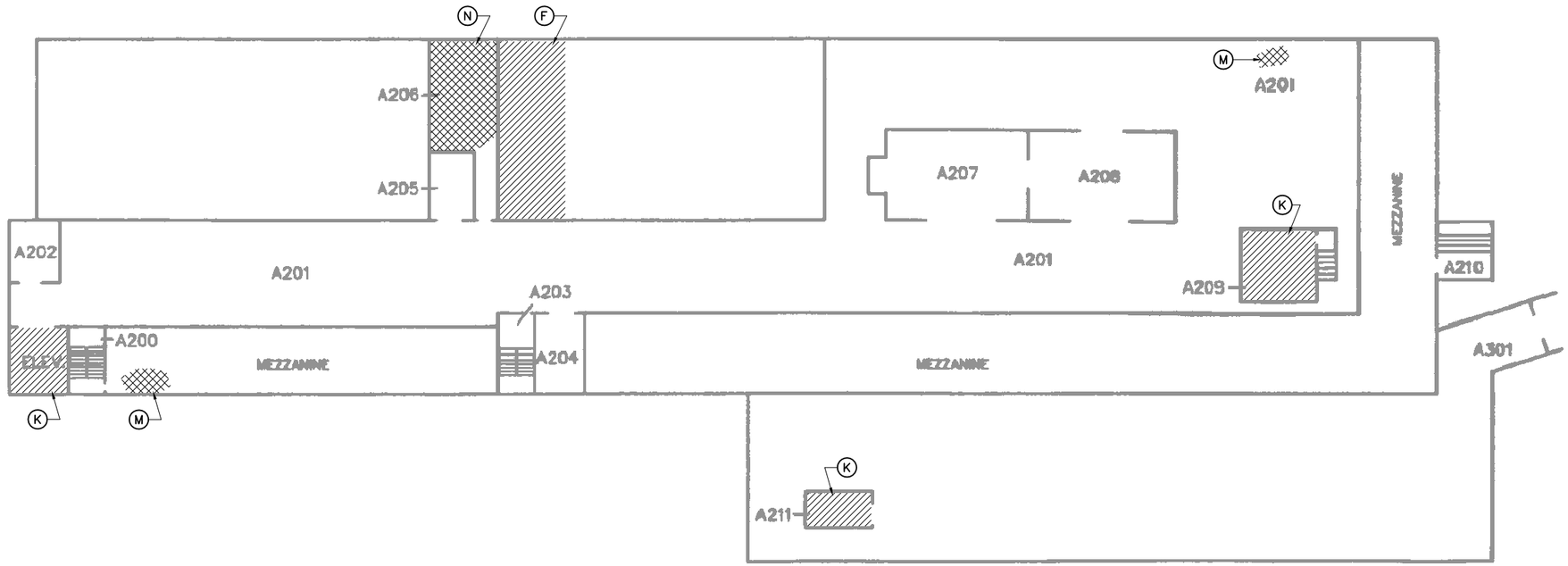

SECOND FLOOR PLAN
BUILDING #2/2A/BRICKMILL
SCALE: 1" = 30'-0"

LEGEND

AREAS WITH POTENTIAL OIL-FILLED EQUIPMENT

AREAS OF HAZARDOUS MATERIALS FOR REMOVAL

MATERIAL LOCATIONS ARE APPROXIMATE

FIGURE 4.
BUILDING #2/2A/BRICKMILL, SECOND FLOOR
CITY OF ROCHESTER
HAZARDOUS MATERIAL SAMPLING/REMOVAL
415 ORCHARD / 354 WHITNEY

DATE:	JANUARY 2007
SCALE:	1" = 30'
DRAWN BY:	DLS
MAP SOURCE:	ENSR INTERNATIONAL ASBESTOS INSPECTION AT 354 WHITNEY ST., ROCHESTER, NEW YORK

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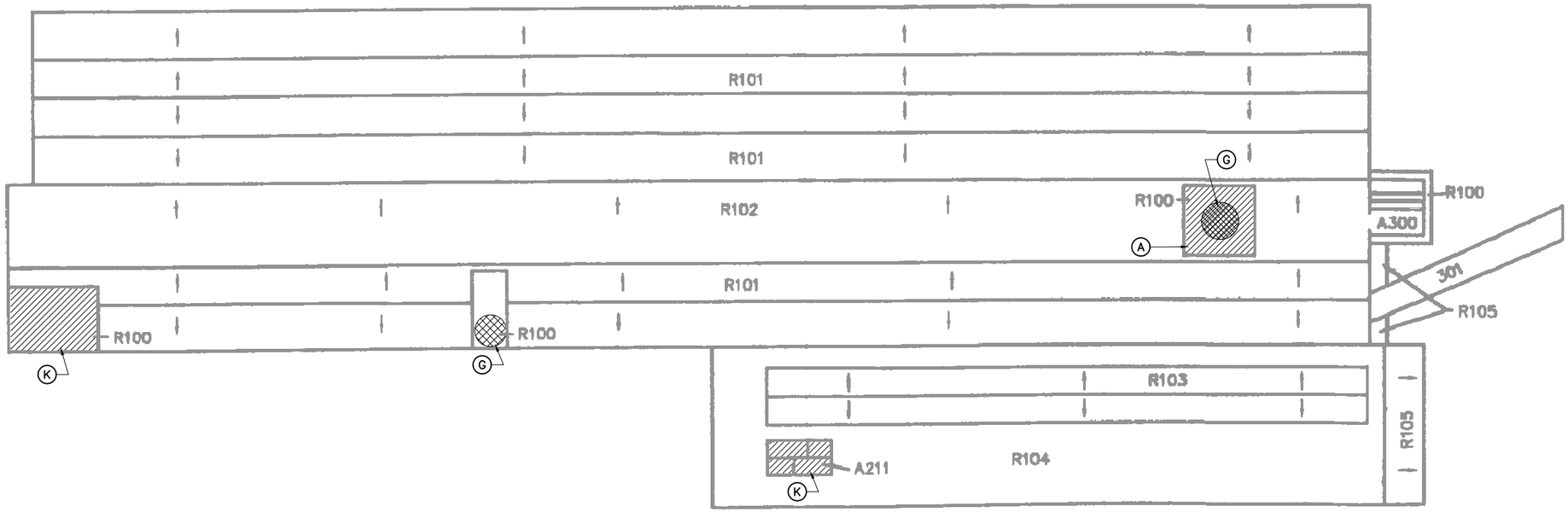

ROOF PLAN
BUILDING #2/2A/BRICKMILL
SCALE: 1" = 30'-0"

LEGEND

AREAS WITH POTENTIAL OIL-FILLED EQUIPMENT

AREAS OF HAZARDOUS MATERIALS FOR REMOVAL

MATERIAL LOCATIONS ARE APPROXIMATE

FIGURE 5.
BUILDING #2/2A/BRICKMILL, ROOF PLAN

CITY OF ROCHESTER
HAZARDOUS MATERIAL SAMPLING/REMOVAL
415 ORCHARD / 354 WHITNEY

DATE: JANUARY 2007
SCALE: 1" = 30'
DRAWN BY: DLS
MAP SOURCE: ENSR INTERNATIONAL
ASBESTOS INSPECTION AT
354 WHITNEY ST., ROCHESTER, NEW YORK

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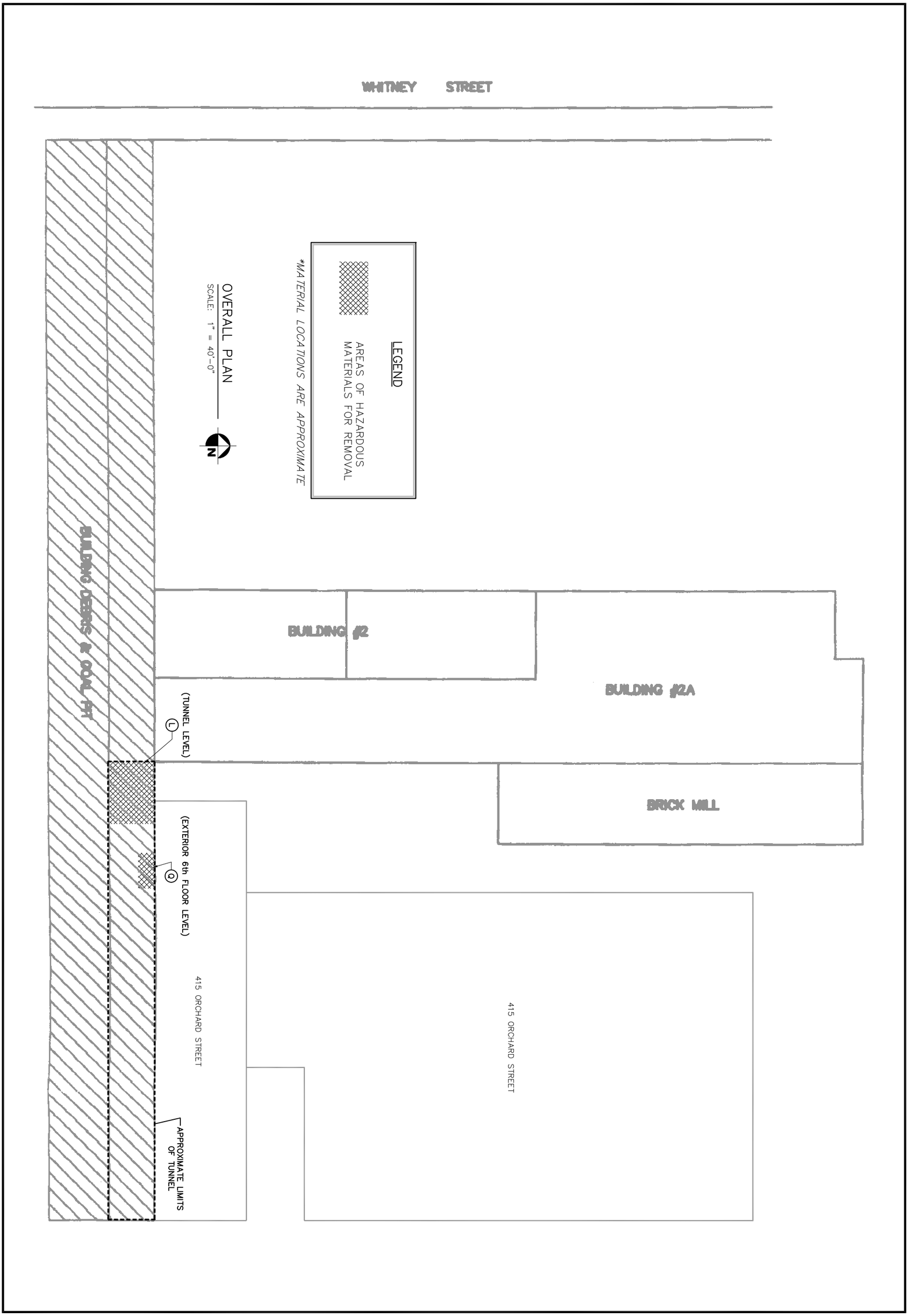

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FIGURE 6.
OVERALL PLAN

CITY OF ROCHESTER
HAZARDOUS MATERIAL SAMPLING/REMOVAL
415 ORCHARD / 354 WHITNEY

DATE:	JANUARY 2007
SCALE:	1" = 30'
DRAWN BY:	DLS
MAP SOURCE:	ENSR INTERNATIONAL ASBESTOS INSPECTION AT 354 WHITNEY ST., ROCHESTER, NEW YORK

Appendix A – Site Specific Health & Safety Plan

Environmental Restoration Program
Orchard-Whitney Site (#E828123)
415 Orchard Street – 354 Whitney Street
City of Rochester
Monroe County, New York

HEALTH AND SAFETY PLAN

Interim Remedial Measure

Prepared For:

City of Rochester
Department of Environmental Services
Division of Environmental Quality
30 Church Street
Rochester, New York 14614

Prepared By:

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LU ENGINEERS
SITE SAFETY PLAN

A. GENERAL INFORMATION

Project Title: Orchard/Whitney Site
City of Rochester
Environmental Restoration Program
Interim Remedial Measure

Lu Project No. 4216

Project Manager: Steven A. Campbell, CHMM

Project Director: Robert Elliott, P.E.

Location: 415 Orchard Street and 354 Whitney Street
City of Rochester, Monroe County, New York

Prepared by: Rebecca May

Date Prepared: July 2006
Date Revised: September 2007

Approved by: _____

Date Approved: _____

Site Safety Officer Review: Christine Davey

Date Reviewed: _____

Scope/Objective of Work: Interim Remedial Measure at Site includes hazardous waste removal to be integrated as part of the asbestos abatement and demolition conducted at the Site :

- Task 1: Oversight of Waste Sorting and Removal

Proposed Date of Field Activities: August – October 2006

Background Information: [ ] Complete [X]* Preliminary (limited analytical data)
* Background information provided by NYSDEC and City of Rochester

Overall Chemical Hazard: [ ] Serious [X] Moderate
[ ] Low [ ] Unknown

Overall Physical Hazard: [ ] Serious [X] Moderate
[ ]Low [ ] Unknown

B. SITE/WASTE CHARACTERISTICS

Waste Type(s):

[X] Liquid [X] Solid [X] Sludge [ ] Gas/Vapor

Characteristic(s):

[ ] Flammable/Ignitable [X] Volatile [ ] Corrosive [ ] Acutely Toxic
[ ] Explosive (moderate) [ ] Reactive [X] Carcinogen [ ] Radioactive
Other: _____

Physical Hazards:

[X] Overhead [ ] Confined Space [ ] Below Grade [X] Trip/Fall
[X] Puncture [X] Burn [X] Cut [X] Splash
[X] Noise [X] Other: Heat Stress/Cold Stress

Site History/Description and Unusual Features:
The site has been used for various commercial and industrial uses since the early 1900s. From 1915 to 1922, the North East Electric Company operated on the site. General Motors occupied the site from 1930 to 1967. Industrial activities including the production of electrical equipment, heat treating, plating, coal storage, boiler operations, petroleum fuel storage and industrial wastewater treatment were performed on the site.

After General Motors closed operations, other industrial operations took place at the site including; metal finishing, synthetic foam production, printing, plastics manufacturing and warehousing. These operations took place at the site until the early 1990s.

The Orchard/Whitney site (Site) is located at 415 Orchard Street and 354 Whitney Street in the City of Rochester, New York (Figure 1). The Site has a combined area of 3.9 acres and is located near the intersection of Lyell Avenue and Broad Street. One multi-story structure of approximately 128,900 square feet remains on the Whitney Street property. This building is partially demolished due to damage sustained during a fire in 2003. There is also one multi-story structure of approximately 371,600 square feet located on the Orchard Street property.

Previous environmental investigations have revealed that volatile organic compounds (VOCs), several metals, and semi-volatile organic compounds (SVOCs) have been detected in subsurface soils and groundwater above NYSDEC Soil Guidance Values on the Whitney Street parcel. Information on the Orchard Street parcel is limited. There are no local private wells in the area of the Site and the surrounding community is on public water and sewer service.

Locations of Chemicals/Wastes: Soil, sediment, surface water and/or groundwater.

Estimated Volume of Chemicals/Wastes: Unknown.

Site Currently in Operation: [ ] Yes [X] No [ ] Not Applicable

C. HAZARD EVALUATION

PHYSICAL HAZARD EVALUATION:		
TASK	**HAZARD(S)**	**HAZARD PREVENTION**
Task 1	Contact with or inhalation of contaminants, potentially in high concentration in sampling media and/or fire and explosion.	To minimize exposure to chemical contaminants, a thorough review of suspected contaminants should be completed and implementation of an adequate protection program. Under-ground vaults to be ventilated during inspections. Field safety equipment will be used to minimize hazards.
	Standard Drilling Rig Hazards	Wear hard hat, keep back from drilling operations, only driller and helper are to be in "drilling zone"
	Drum opening/sampling	Proper protective equipment, drum opening techniques, equipment and the use of remote sampling when possible.
	Overhead Hazards/ Falling Objects	**See Appendix B**
	Back strain and muscle fatigue, ergonomic stress due to lifting.	Use proper lifting techniques and limit load to prevent back strain.
	Heat stress/ cold stress exposure.	Implement heat stress management techniques such as shifting work hours, increasing fluid intake, and monitoring employees**. See Appendix A.**
	Slip/ tripping/ fall.	Observe terrain and drilling equipment while walking to minimize slips and falls. Steel-toed boots provide additional support and stability. Use adequate lighting. Inspect Site and mark existing hazards.
	Medical Waste (Sharps)	Carefully observe terrain while walking and any onsite materials before handling. Gloves should be worn for any contact with onsite materials.
	Noise	**See Appendix B**
	Native wildlife presents the possibility of insect bites and associated diseases.	Avoid wildlife when possible.
	Sunburn.	Apply sunscreen, wear appropriate clothing.
	Utility Lines.	**See Appendix B**
	Weather Extremes	Establish site-specific contingencies for severe weather situations. Discontinue work in severe weather.

Physical Hazard Evaluation: Basic health and safety protection (steel-toed boots, work clothes, and safety glasses or goggles) will be worn by all personnel at all times. Any allergies should be reported to the Site Safety Officer prior to the start of the project.

D. SITE SAFETY WORK PLAN

Site Control: Site perimeter is fenced and gated, though continued evidence of vandalism suggests Site is not fully secure.

Perimeter Identified? [Y] **Site Secured? [N]**

Work Areas Designated? [Y] **Zone(s) of contamination identified? [N]**

Anticipated Level of Protection (cross-reference task numbers in Section C):

	A	B	C	D
Task 1			Available	X

All Site work will be performed at Level D (steel-toed boots, work clothes, eye protection, gloves and hard hats) unless monitoring indicates otherwise. Gloves will be worn if contact with Site soil, sediment or water is anticipated, due to concerns of PCB contamination. Level C will be available, and used when indicated by PID of 1 ppm or greater above ambient air.

See Appendix B-1, B-2, and B-3 for specific site safety requirements.

Air Monitoring:
Continuous perimeter air monitoring for VOCs and particulates will performed during intrusive activities and is described in the Community Air Monitoring Plan (Appendix C).

Lu Engineers will also conduct continuous air monitoring of worker breathing zone air during intrusive investigations. If action levels are exceeded during intrusive investigation, appropriate precautions will be taken, as described below.

Action Levels:
PID readings of **>5 ppm to 10 ppm** above backround in the breathing zone, sustained for greater than 1 minute,
Action: Hault work activities and move away from the vapor source. Consider upgrading to Level C protection. If PID readings drop to within 5 ppm above background, work may resume with continuous air monitoring.

PID readings of **10 ppm to <25 ppm** above background at breathing zone, sustained for greater than 1 minute,
Action: Upgrade to Level C protection.

PID readings of **>25 ppm** above background at breathing zone, sustained for greater than 1 minute,
Action: Stop work.

O_2 readings must remain between 19.5% and 22.0%. Explosivity must be above 10% LEL. The area must be evacuated and ignition sources eliminated if levels are not within their standard. These atmosphere factors will be measured at a position that would give the earliest indication of a hazardous condition forming not at the breathing zone. Appropriate actions, initially evacuation of the immediate work area, will be taken if established action levels area exceeded.

If particulate levels exceed a level of 2.5 times background (upwind levels subtracted from downwind concentration) or a level of 150 mcg/m^3, dust control measures will be initiated and the dust generating activity suspended until levels decrease below the action level. Perimeter monitoring will be conducted if the action level is obtained at the work area.
All air monitoring results as well as wind direction and speed (estimates) will be documented in the site specific log book.

Decontamination Solutions and Procedures for Equipment, Sampling Gear, etc.:
Disposable sampling equipment will be used where possible. If decon is necessary, distilled or deionized water and alconox will be used. A 10% nitric acid rinse will be added if metals sampling is to be conducted.

Personnel Decon Protocol:
Personal protective clothing will be removed in a manner that will minimize the potential of contaminant to skin contact. Visible contamination will be removed from protective clothing prior to the individual doffing the articles. Soap, water and paper towels will be available for all personnel and will be used before eating, drinking or leaving the Site. Personnel will shower upon return to home or hotel. Disposable PPE will be double-bagged and disposed of as non-hazardous waste unless PCBs are detected. If PCBs are detected, the PPE will be disposed of accordingly.

Decontamination Solution Monitoring Procedures, if Applicable:
All decontamination procedures will take place in a well ventilated area. Decontamination solutions will be collected and sampled for proper disposal.

Special Site Equipment, Facilities or Procedures
(Sanitary Facilities and Lighting Must Meet 29CFR 1910.120):
All personnel will be required to maintain the Buddy System at all times. A portable toilet and potable water will be available on Site. All parties will be required to attend an on-site briefing, which will identify the roles of each organization's personnel and will integrate emergency procedures for all Site participants.

Site Entry Procedures and Special Considerations:
The building will be inspected for structural integrity and presence of confined spaces. Any confined spaces will be marked and access restricted. The initial building inspection will be conducted by the site safety officer and the field team leader. All overhead hazards should be marked, tripping/floor hazards should be marked and barricaded if necessary, other sharp edges, drop offs, flooded areas or hazardous debris appropriately identified. Electrical hazards should be identified if power is activated. Ventilation will be provided to the extent necessary to reduce hazardous atmospheres.

Entry to the Site should be limited through the Whitney Street gate. The gate should be closed and locked when not in use both when personnel are on or off site in order to restrict unauthorized individuals. The Buddy System should be employed at all times onsite and entering and exiting the Site, along with the work zone areas.

Work Limitations (time of day, weather conditions, etc.) and Heat/Cold Stress Requirements:
All work will be completed during daylights hours. Severe inclement weather may be cause to suspend outdoor activities. Heat stress protocol will dictate work/rest regimen. Heavy equipment will not be used during electrical storms.

General Spill Control, if Applicable:
Absorbent material will be available to control spills during the collection of liquid samples (e.g. USTs, drums, floor drains, sumps).

Investigation Derived Material (i.e., Expendables, Decon Waste, Cuttings) Disposal:
Investigation derived waste soils and water will be collected in drums and/or an onsite tank and stored securely onsite prior to being sampled for disposal. Expendables such as disposable sampling equipment, gloves and towels, will be bagged for disposal. Expendables that have contacted PCB-containing oils will be bagged separately and labeled for appropriate disposal.

Sampling Handling Procedures Including Protective Wear:
Samples collected from drums, sumps, USTs and floor drains will be handled with neoprene outer gloves prior to decontamination. At minimum nitrile surgical gloves will be worn while handling all other samples during labeling, documentation and packaging.

Team Member*	**Responsibility**
Greg Andrus	Field Team Leader
Christine Davey	Site Safety Officer
Sue Hilton	Team Member
Eric Detweiler	Team Member
Roy Green	Team Member
Rebecca May	Team Member
Cliff Rigerman	Team Member-Survey

* All entries into the work zone require "Buddy System" use. All Lu Engineers' field staff participate in a medical monitoring program and have completed applicable training per 29CFR 1910.120. Respiratory protection program meets requirements of 29CFR 1910.134.

E. EMERGENCY INFORMATION

LOCAL RESOURCES

Ambulance:	911
Hospital Emergency Room:	Strong Memorial Hospital (585) 275-4551
	601 Elmwood Avenue, Rochester, New York
Poison Control Center:	911
Police (include local, county sheriff, state):	911
Fire Department:	911
Airport:	N/A
Laboratory:	Upstate Labs (315) 437-0255
UPS/Federal Express:	N/A

SITE RESOURCES

Site Emergency Evaluation Alarm Method:	Sound vehicle horn.
Water Supply Source:	Gallons of water will be available in vehicles.
Telephone Location, Number:	None available
Cellular Phone, if Available:	TBD
Radio:	TBD
Other:	TBD

EMERGENCY CONTACTS

1.	Fire/Police:	911
2.	Lu Engineers, Safety Director:	(585) 377-1450, Ext. 235 (office)
3.	Lu Engineers, Steve Campbell	(585) 377-1450, Ext. 249 (office)

EMERGENCY ROUTES

Note: Field team must know route(s) prior to start of work.

Directions from the site to Strong Memorial Hospital (map on following page):
Turn right onto Whitney Street. Take a right onto Lyell Avenue. Turn right onto Broad Street (1 mile). Stay straight to go onto Ford Street. Turn slight right onto South Plymouth Avenue NY-383 (1.6 miles). Turn left on Elmwood Avenue, the hospital is at 601 Elmwood Avenue.

On-site Assembly Area: At site entry point at Whitney Street Gate.

Off-site Assembly Area: The intersection of Whitney Street and Lyell Avenue.

Emergency egress routes to get off-site: N/A .

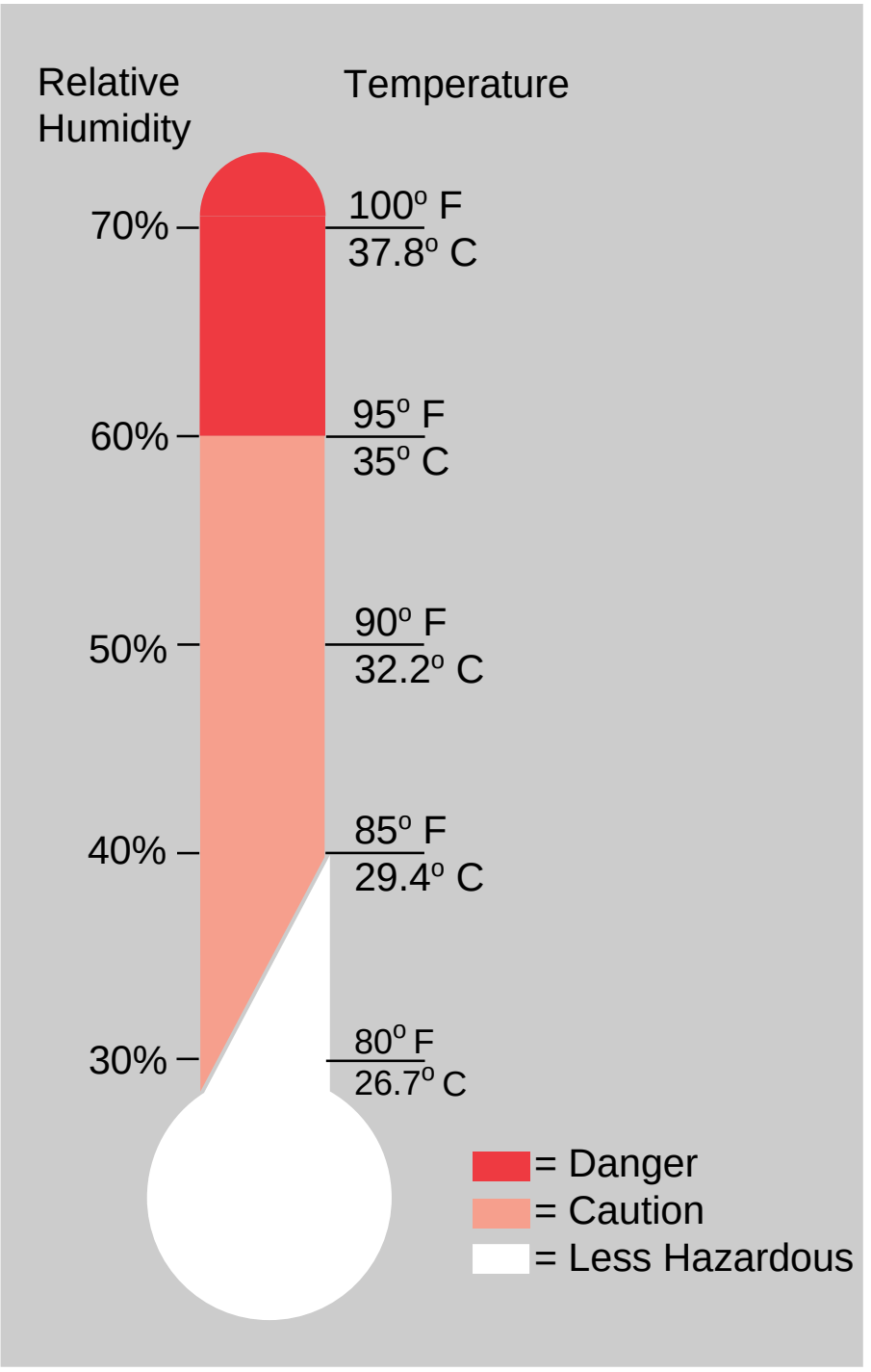
APPENDIX A

HEAT STRESS AND COLD EXPOSURE

THE HEAT EQUATION

HIGH TEMPERATURE + HIGH HUMIDITY + PHYSICAL WORK = HEAT ILLNESS

When the body is unable to cool itself through sweating, **serious** heat illnesses may occur. The most severe heat-induced illnesses are **heat exhaustion** and **heat stroke**. If actions are not taken to treat heat exhaustion, the illness could progress to heat stroke and possible **death**.



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Occupational Safety and Health Administration
OSHA 3154
1998

HEAT EXHAUSTION

What Happens to the Body:

HEADACHES, DIZZINESS/LIGHT HEADEDNESS, WEAKNESS, MOOD CHANGES (irritable, or confused/can't think straight), FEELING SICK TO YOUR STOMACH, VOMITING/THROWING UP, DECREASED and DARK COLORED URINE, FAINTING/PASSING OUT, and PALE CLAMMY SKIN.

What Should Be Done:

- Move the person to a cool shaded area to rest. Don't leave the person alone. If the person is dizzy or light headed, lay them on their back and raise their legs about 6-8 inches. If the person is sick to their stomach lay them on their side.
- Loosen and remove any heavy clothing.
- Have the person drink some cool water (a small cup every 15 minutes) if they are not feeling sick to their stomach.
- Try to cool the person by fanning them. Cool the skin with a cool spray mist of water or wet cloth.
- If the person does not feel better in a few minutes call for emergency help (Ambulance or Call 911).

(If heat exhaustion is not treated, the illness may advance to heat stroke.)

HEAT STROKE—A MEDICAL EMERGENCY

What Happens to the Body:

DRY PALE SKIN (no sweating), HOT RED SKIN (looks like a sunburn), MOOD CHANGES (irritable, confused/not making any sense), SEIZURES/FITS, and COLLAPSE/PASSED OUT (will not respond).

What Should Be Done:

- Call for emergency help (Ambulance or Call 911).
- Move the person to a cool shaded area. Don't leave the person alone. Lay them on their back and if the person is having seizures/fits remove any objects close to them so they won't strike against them. If the person is sick to their stomach lay them on their side.
- Remove any heavy and outer clothing.
- Have the person drink some cool water (a small cup every 15 minutes) if they are alert enough to drink anything and not feeling sick to their stomach.
- Try to cool the person by fanning them. Cool the skin with a cool spray mist of water, wet cloth, or wet sheet.
- If ice is available, place ice packs under the arm pits and groin area.

How to Protect Workers

- Learn the signs and symptoms of heat-induced illnesses and what to do to help the worker.
- Train the workforce about heat-induced illnesses.
- Perform the heaviest work in the coolest part of the day.
- Slowly build up tolerance to the heat and the work activity (usually takes up to 2 weeks).
- Use the buddy system (work in pairs).
- Drink plenty of cool water (one small cup every 15-20 minutes)
- Wear light, loose-fitting, breathable (like cotton) clothing.
- Take frequent short breaks in cool shaded areas (allow your body to cool down).
- Avoid eating large meals before working in hot environments.
- Avoid caffeine and alcoholic beverages (these beverages make the body lose water and increase the risk for heat illnesses).

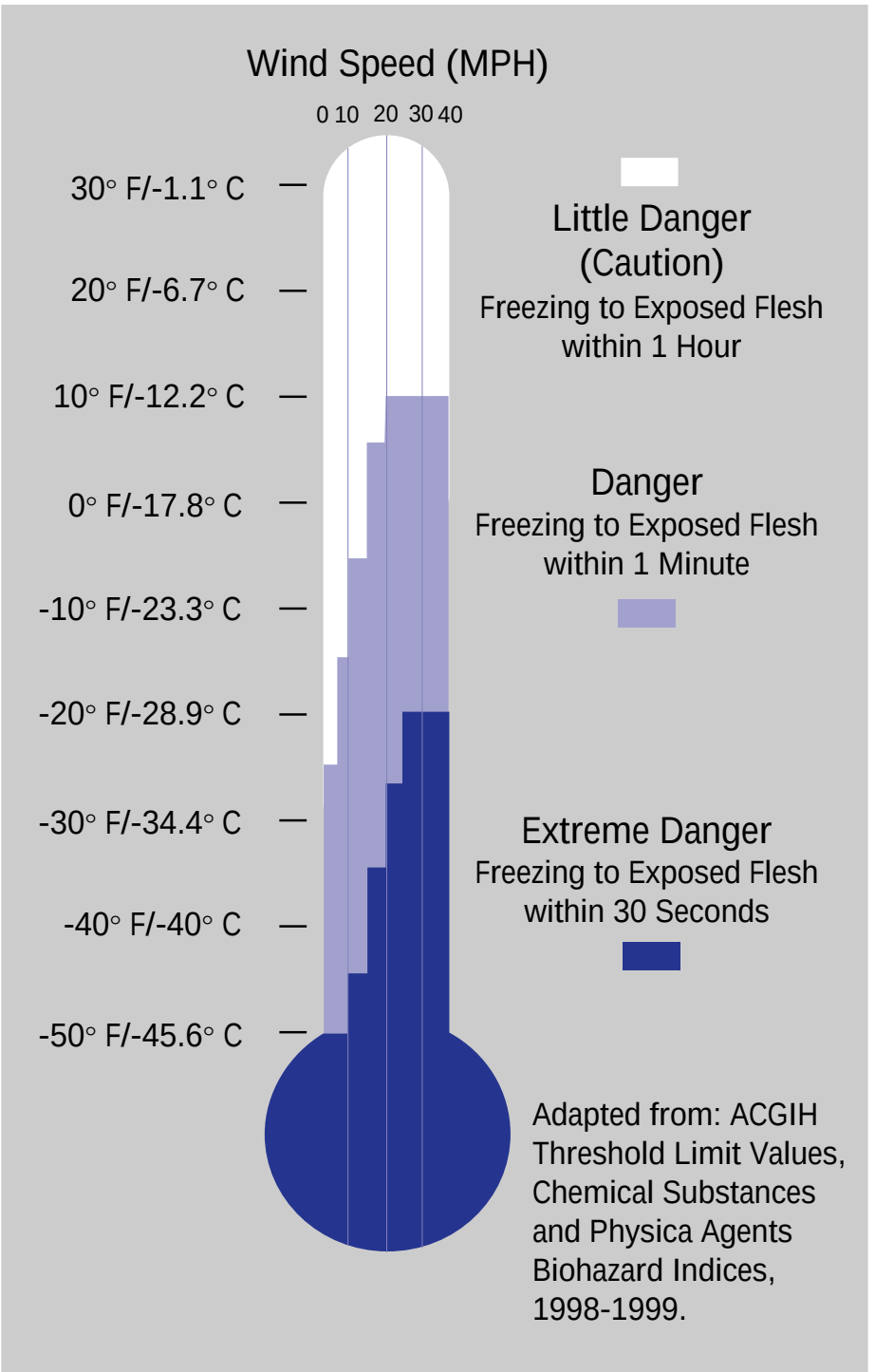
Workers Are at Increased Risk When

- They take certain medication (check with your doctor, nurse, or pharmacy and ask if any medicines you are taking affect you when working in hot environments).
- They have had a heat-induced illness in the past.
- They wear personal protective equipment (like respirators or suits).

THE COLD STRESS EQUATION

LOW TEMPERATURE + WIND SPEED + WETNESS = INJURIES & ILLNESS

When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result. **Hypothermia** can occur when *land temperatures* are **above** freezing or *water temperatures* are below 98.6°F/ 37°C. Cold-related illnesses can slowly overcome a person who has been chilled by low temperatures, brisk winds, or wet clothing.



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Occupational Safety and Health Administration
OSHA 3156
1998

FROST BITE

What Happens to the Body:

FREEZING IN DEEP LAYERS OF SKIN AND TISSUE; PALE, WAXY-WHITE SKIN COLOR; SKIN BECOMES HARD and NUMB; USUALLY AFFECTS THE FINGERS, HANDS, TOES, FEET, EARS, and NOSE.

What Should Be Done: (land temperatures)

- Move the person to a warm dry area. Don't leave the person alone.
- Remove any wet or tight clothing that may cut off blood flow to the affected area.
- **DO NOT** rub the affected area, because rubbing causes damage to the skin and tissue.
- **Gently** place the affected area in a warm (105°F) water bath and monitor the water temperature to **slowly** warm the tissue. Don't pour warm water directly on the affected area because it will warm the tissue too fast causing tissue damage. Warming takes about 25-40 minutes.
- After the affected area has been warmed, it may become puffy and blister. The affected area may have a burning feeling or numbness. When normal feeling, movement, and skin color have returned, the affected area should be dried and wrapped to keep it warm. **NOTE:** If there is a chance the affected area may get cold again, do not warm the skin. If the skin is warmed and then becomes cold again, it will cause severe tissue damage.
- Seek medical attention as soon as possible.

HYPOTHERMIA - (Medical Emergency)

What Happens to the Body:

NORMAL BODY TEMPERATURE (98.6° F/37°C) DROPS TO OR BELOW 95°F (35^0 C); FATIGUE OR DROWSINESS; UNCONTROLLED SHIVERING; COOL BLUISH SKIN; SLURRED SPEECH; CLUMSY MOVEMENTS; IRRITABLE, IRRATIONAL OR CONFUSED BEHAVIOR.

What Should Be Done: (land temperatures)

- Call for emergency help (i.e., Ambulance or Call 911).
- Move the person to a warm, dry area. Don't leave the person alone. Remove any wet clothing and replace with warm, dry clothing or wrap the person in blankets.
- Have the person drink warm, sweet drinks (sugar water or sports-type drinks) if they are alert. **Avoid drinks with caffeine** (coffee, tea, or hot chocolate) or alcohol.
- Have the person move their arms and legs to create muscle heat. If they are unable to do this, place warm bottles or hot packs in the arm pits, groin, neck, and head areas. **DO NOT** rub the person's body or place them in warm water bath. This may stop their heart.

What Should Be Done: (water temperatures)

- Call for emergency help (Ambulance or Call 911). Body heat is lost up to 25 times faster in water.
- **DO NOT** remove any clothing. Button, buckle, zip, and tighten any collars, cuffs, shoes, and hoods because the layer of trapped water closest to the body provides a layer of insulation that slows the loss of heat. Keep the head out of the water and put on a hat or hood.
- Get out of the water as quickly as possible or climb on anything floating. **DO NOT** attempt to swim unless a floating object or another person can be reached because swimming or other physical activity uses the body's heat and reduces survival time by about 50 percent.
- If getting out of the water is not possible, wait quietly and conserve body heat by folding arms across the chest, keeping thighs together, bending knees, and crossing ankles. If another person is in the water, huddle together with chests held closely.

How to Protect Workers

- Recognize the environmental and workplace conditions that lead to potential cold-induced illnesses and injuries.
- Learn the signs and symptoms of cold-induced illnesses/injuries and what to do to help the worker.
- Train the workforce about cold-induced illnesses and injuries.
- Select proper clothing for cold, wet, and windy conditions. Layer clothing to adjust to changing environmental temperatures. Wear a hat and gloves, in addition to underwear that will keep water away from the skin (polypropylene).
- Take frequent short breaks in warm dry shelters to allow the body to warm up.
- Perform work during the warmest part of the day.
- Avoid exhaustion or fatigue because energy is needed to keep muscles warm.
- Use the buddy system (work in pairs).
- Drink warm, sweet beverages (sugar water, sports-type drinks). Avoid drinks with caffeine (coffee, tea, or hot chocolate) or alcohol.
- Eat warm, high-calorie foods like hot pasta dishes.

Workers Are at Increased Risk When…

- They have predisposing health conditions such as cardiovascular disease, diabetes, and hypertension.
- They take certain medication (check with your doctor, nurse, or pharmacy and ask if any medicines you are taking affect you while working in cold environments).
- They are in poor physical condition, have a poor diet, or are older.

APPENDIX B

ADDITIONAL POTENTIAL PHYSICAL AND CHEMICAL HAZARDS

ADDITIONAL POTENTIAL PHYSICAL AND CHEMICAL HAZARDS	
POTENTIAL PHYSICAL HAZARDS	**CONTROL METHODS**
Overhead Hazards/Falling Objects	Overhead hazards will be identified prior to each task (i.e., inspecting drill rig mast, building structure). Hard hats will be required for each task that poses an overhead hazard.
Contact with Utilities	Prior to initiating site activities, all utilities will be located by the appropriate utility company and will be marked and/or barricaded to minimize the potential of accidental contact. A minimum distance of 25 feet between the derrick and overhead power lines must be maintained at all times.
Noise Exposure	Areas of potentially high sound pressure levels (>85 dBA) will be restricted to authorized personnel only. Engineering controls will be used to the extent possible. Hearing protection will be made available to all workers on site. Exposure to time-weighted average levels in excess of 85 dBA is not anticipated.
POTENTIAL CHEMICAL HAZARDS	**GENERAL CONTROL METHODS**
Contaminant Inhalation	Direct reading instruments will be used to monitor airborne contaminants. Established Lu Engineers' action levels will limit exposure to safe levels. Respiratory protection will be used as appropriate.
Contaminant Ingestion	Standard safety procedures such as restricting eating, drinking, and smoking to the support zone and utilizing proper personal decontamination procedures will minimize ingestion as a potential route of exposure.
Dermal Contaminant Contact	The proper selection and use of personal protective clothing and decontamination procedures will minimize dermal contaminant contact.
Potential contact with lower concentration waste and naturally occurring contaminants (i.e., methane)	Dermal contact with contaminants will be minimized by proper use of the following PPE: • Tyvex coveralls • Neoprene gloves • Booties (latex) or over-boots.

APPENDIX C

HAZARD EVALUATION SHEETS / MSDS

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
1	Aroclor 1254 Polychlorinated biphenyl (PCB)*	0.5 ^{sk} mg/m^3	---	0.5 ^{sk} mg/m^3	Y	Abs, Inh, Ing	Irritation to eyes and skin; dermatitis, liver damage	Mild hydrocarbon odor	---	---
1	Aroclor 1242 Polychlorinated biphenyl (PCB)*	1.0 ^{sk} mg/m^3	---	1.0 ^{sk} mg/m^3	Y	Abs, Inh, Ing	Irritation to eyes and skin; dermatitis, liver damage	Mild hydrocarbon odor	---	---
1	Aroclor 1260 Polychlorinated biphenyl (PCB)*	0.5 ^{sk} mg/m^3	---	0.5 ^{sk} mg/m^3	Y	Abs, Inh, Ing	Irritation to eyes and skin; dermatitis, liver damage	---	---	---
1	Arsenic*	0.010 mg/m^3	---	0.01 mg/m^3	Y	Inh, Ing, Abs, Con	Coughing, irritation to eyes, nose, throat, respiratory tract, inflammation of mucous membranes, dyspnea (labored breathing), cyanosis, and rales (rattle breathing), vomiting, bloody diarrhea, cold clammy skin, low blood pressure, weakness, headache cramps, convulsions, coma, redness, burns to skin	Odorless/silver gray or tin white brittle (metal, inorganic), also can be in solution (clear & odorless)	---	---
1	Asbestos*	0.1 fibers/cc	---	0.2 - 2.0 fibers/cc	N	Inh, Ing	None.	Odorless	---	---
1	Barium	0.5 mg/m^3	---	0.5 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, nose, throat, or skin; stomach pains, slow pulse, irregular heart beat	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
1	Benzene*	1 ppm	---	10 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, nose, respiratory system; headache, nausea, dizziness, drowsiness, unconsciousness, harmful, fatal if aspirated into lungs	Colorless to light yellow liquid, sweet aromatic odor	0.5	9.25
1	Cadmium*	0.005 mg/m^3	LFC	0.01 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, nose, throat, cough, tight chest/pain, dyspnea, pulmonary edema, sweating, chills, slow pulse, muscle aches, weakness, death	Silvery/white (blue tinged) lustrous solid, odorless	---	N/A
1	Chromium (metal)	1.0 mg/m^3	0.5 mg/m^3	0.5 mg/m^3	N	Inh, Ing, Con	Irritation to eyes, skin and respiratory tract (lungs), ulceration of skin and mucous membranes, rash, electrolyte disturbances	Blue-white to steel gray lustrous brittle hard, odorless solid	---	N/A
1	Ethylbenzene	100 ppm	---	100 ppm	Y	Inh, Ing, Con	Irritation to eyes, skin, mucous membranes; dermatitis, narcosis, , trouble breathing, paralysis, headache, nausea, headache, dizziness, coma	Colorless liquid, aromatic odor	0.5	8.77

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
1	Lead	0.05 mg/m^3	0.05 mg/m^3	0.05 mg/m^3	Y	Inh, Ing, Con	Poison, abdominal pain, spasms, nausea, vomiting, headache, irritation to eyes; skin, weakness, metallic taste, anorexia/loss of appetite, insomnia, facial pallor, colic, anemia, tremor, “lead line” in gums, constipation, abdominal pain, paralysis in wrists and ankles, encephalopathy (inflammation of brain)	Odorless	---	---

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
1	Mercury	0.1 [sk] mg/m^3 ceiling	0.1 mg/m^3 ceiling 0.05 mg/m^3 ceiling	0.025 [sk] mg/m^3	Y	Inh, Abs, Ing, Con	Severe respiratory tract damage, sore throat, coughing, pain, tightness in chest, breathing difficulties, headache, muscle weakness, anorexia, GI disturbances, ringing in ear, liver changes fever, bronchitis, pneumonitis, burning in mouth, abdominal pain, vomiting, corrosive ulceration, bloody diarrhea, weak & rapid pulse, paleness, exhaustion, tremors, collapse, thirst, burns and irritates skin, eyes, blurred vision, pain in eyes	Silver-white, heavy, odorless liquid metal	---	N/A
1	Trichloroethene* (TCE)	100 ppm (per 6/97 NIOSH Pocket Guide)			Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, mucous membranes and GI, headache, vertigo, fatigue, giddiness, tremors, vomiting, nausea, may burn skin, visual disturbance, paresthesia, cardiac arrhythmias	Colorless liquid, sometimes dyed blue, chloroform odor	---	9.45

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
1	Toluene	200 ppm	---	50 ppm	Y	Inh, Abs, Ing, Con	Irritation to eyes, skin, nose; upper respiratory tract, fatigue, weak, confusion, dizziness, headache, drowsiness, abdominal spasms, dilated pupils, euphoria	Colorless liquid, sweet pungent, benzene like odor	0.5	8.82
1	Xylene(s)	100 ppm	---	100 ppm	Y	Inh, Ing, Abs, Con	Irritation to eyes, nose, throat, skin; nausea, vomiting, headache, ringing in ears, severe breathing difficulties (that may be delayed in onset), substernal pain, coughing hoarseness, dizziness, excited, burning in mouth, stomach, dermatitis (removes oils from skin), corneal burns	Colorless liquid, aromatic odor (solid below 56 F	.5	8.44

KEY:

PEL = Permissible Exposure Limit
REL = Recommended Exposure Limit
--- = Information not available
TLV = Threshold Limit Value(ACGIH)

Inh = Inhalation
Ing = Ingestion
mg/m^3 = Milligrams per cubic meter
* = Chemical is a known or suspected carcinogen

Abs = Skin Absorption
Con = Skin and/or eye Contact
ppm = Parts per million
sk = Skin notation

APPENDIX D

EQUIPMENT CHECKLIST

EQUIPMENT CHECKLIST

PROTECTIVE GEAR			
LEVEL A	**N/A**	**LEVEL B**	**N/A**
SCBA		SCBA	
SPARE AIR TANKS		SPARE AIR TANKS	
ENCAPSULATING SUITE (Type)		PROTECTIVE COVERALL (Type)	
SURGICAL GLOVES		RAIN SUIT	
NEOPRENE SAFETY BOOTS		BUTYL APRON	
BOOTIES		SURGICAL GLOVES	
GLOVES (Type)		GLOVES (Type)	
OUTER WORK GLOVES		OUTER WORK GLOVES	
HARD HAT		NEOPRENE SAFETY BOOTS	
CASCADE SYSTEM		BOOTIES	
5-MINUTE COOLING VEST		HARD HAT WITH FACE SHIELD	
		CASCADE SYSTEM	
		MANIFOLD SYSTEM	
LEVEL C		**LEVEL D**	
ULTRA-TWIN RESPIRATOR	X	ULTRA-TWIN RESPIRATOR (available)	X
POWER AIR PURIFYING RESPIRATOR		CARTRIDGES (Type GMC-H)(available)	X
CARTRIDGES (Type GMC-H)	X	5-MINUTE ESCAPE MASK (available)	
5-MINUTE ESCAPE MASK		PROTECTIVE COVERALL (Type Tyvek/Saranax)	X
PROTECTIVE COVERALL (Type Tyvek/Saranax)	X	RAIN SUIT (available)	X
RAIN SUIT		NEOPRENE SAFETY BOOTS	
BUTYL APRON		BOOTIES (available)	X
SURGICAL GLOVES	X	NITRILE	
GLOVES (Type: Nitrite/Neoprene)	X	HARD HAT WITH FACE SHIELD (available)	X
OUTER WORK GLOVES		SAFETY GLASSES	X
NEOPRENE SAFETY BOOTS		GLOVES (Type: Surgical)	X
HARD HAT WITH FACE SHIELD	X	WORK GLOVES (Type: Neoprene/Nitrile)(available)	X
BOOTIES	X	SAFETY BOOTS	X
HARD HAT		BLAZE ORANGE VEST	X

EQUIPMENT CHECKLIST

INSTRUMENTATION	NO.	**FIRST AID EQUIPMENT**	NO.
OVA		FIRST AID KIT	X
THERMAL DESORBER		OXYGEN ADMINISTRATOR	
O_2/EXPLOSIMETER W/CAL.KIT (Drilling)	X	STRETCHER	
PHOTOVAC TIP		PORTABLE EYE WASH	
PID	X	BLOOD PRESSURE MONITOR	
MAGNETOMETER		FIRE EXTINGUISHER	X
PIPE LOCATOR			
WEATHER STATION		**DECON EQUIPMENT**	
DRAEGER PUMP, TUBES ( )		WASH TUBS	
BRUNTON COMPASS		BUCKETS	X
MONITOX CYANIDE		SCRUB BRUSHES	X
HEAT STRESS MONITOR		PRESSURIZED SPRAYER	
NOISE EQUIPMENT		DETERGENT (Type: Alconox) = TSP	X
PERSONAL SAMPLING PUMPS		SOLVENT (HEXANE)	
MINI-RAM (Particulates) (Drilling)	X	PLASTIC SHEETING	X
		TARPS AND POLES	
		TRASH BAGS	X
RADIATION EQUIPMENT		TRASH CANS	
DOCUMENTATION FORMS		MASKING TAPE	
PORTABLE RATEMETER		DUCT TAPE	X
SCALER/RATEMETER		PAPER TOWELS	X
NaI Probe		FACE MASK	
ZnS Probe		FACE MASK SANITIZER	
GM Pancake Probe		FOLDING CHAIRS	
GM Side Window Probe		STEP LADDERS	
MICRO R METER		DISTILLED WATER	X
ION CHAMBER			
ALERT DOSIMETER			
MINI-RAD			

EQUIPMENT CHECKLIST

SAMPLING EQUIPMENT	NO.	MISCELLANEOUS (cont.)	NO.
4-OZ BOTTLES	X	BUNG WRENCH	X
1 LITER AMBER BOTTLES	X	SOIL AUGER	X
VOA BOTTLES	X	PICK	
SOIL SAMPLING (CORING) TOOL	X	SHOVEL	X
SOIL VAPOR PROBE		CATALYTIC HEATER	
THIEVING RODS WITH BULBS	X	PROPANE GAS	
SPOONS	X	BANNER TAPE	X
GENERAL TOOL KIT	X	SURVEYING METER STICK	X
FILTER PAPER		CHAINING PINS AND RING	
PERSONAL SAMPLING PUMP SUPPLIES		TABLES	
4-OZ JARS	X	WEATHER RADIO	
		BINOCULARS	
VAN EQUIPMENT		MEGAPHONE	
TOOL KIT		PORTABLE RADIOS (4)	X
HYDRAULIC JACK		CELL PHONE	X
LUG WRENCH		CAMERA	X
TOW CHAIN		HEARING PROTECTION	X
VAN CHECK OUT			
GAS		**SHIPPING EQUIPMENT**	
OIL		COOLERS	X
ANTIFREEZE		PAINT CANS WITH LIDS, 7 CMIPS EACH	
BATTERY		VERMICULITE	
WINDSHIELD WASH		SHIPPING LABELS	X
TIRE PRESSURE		DOT LABELS: “DANGER”, “UP”;	
		“INSIDE CONTAINER COMPLIES...”;	
MISCELLANEOUS		“HAZARD GROUP”	
PITCHER PUMP		STRAPPING TAPE	X
SURVEYOR’S TAPE	X	BOTTLE LABELS	X
100 FIBERGLASS TAPE	X	BAGGIES	X
300 NYLON ROPE		CUSTODY SEALS	X
NYLON STRING	X	CHAIN-OF-CUSTODY FORMS	X
SURVEYING FLAGS	X	FEDERAL EXPRESS FORMS	X
FILM		CLEAR PACKING TAPE	X
WHEEL BARROW			

Appendix B – Community Air Monitoring Plan

City of Rochester
Environmental Restoration Project
Orchard-Whitney Site
415 Orchard Street and 354 Whitney Street
City of Rochester
Monroe County, New York

COMMUNITY AIR MONITORING PLAN

Interim Remedial Measure

Prepared For:

City of Rochester
Department of Environmental Services
Division Environmental Quality
30 Church Street
Rochester, New York 14614

Prepared By:

LU ENGINEERS
Civil and Environmental
2230 Penfield Road
Penfield, New York 14526

July 2006
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Project No: 4216

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1.0 Introduction

This Community Air Monitoring Plan (CAMP) has been prepared by Lu Engineers on behalf of the City of Rochester. This CAMP addresses potential volatile organic compound (VOC) and particulate air quality issues which may arise during planned Remedial Investigation activities at the Orchard/Whitney Site located at 415 Orchard Street and 354 Whitney Street, Rochester, New York.

The investigation activities planned during the portion of the project covered by this CAMP include soil borings, groundwater monitoring well installations, test pit completion, tank removals, and soil and groundwater sampling. Air monitoring during the demolition portion of this project will be the responsibility of the demolition contractor.

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 (VOCs) 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 investigation activities, to minimize the potential for neighborhood exposure to airborne hazards resulting from fugitive emissions during field work.

Air monitoring and response actions for VOCs 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 Remedial Investigation activities by Lu Engineers. The following monitoring, response levels and actions are adapted from DER-10 NYSDOH Generic Community Air Monitoring Plan.

2.0 Methodology

The Remedial Investigation activities at the Site will consist primarily of soil borings, well installations, test pit completion, and groundwater sampling. The following programs will be implemented to monitor and, if necessary, control the potential migration of fugitive VOCs and particulates on the property.

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 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.

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 temporary monitoring points will be identified, one upwind and one downwind of the work area, at the perimeter of the site or field work location.

VOC monitoring will be done with a photoionization 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 with the drill rig engine and any other gas/diesel engines operation on site. 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 VOCs and explosive gases, similar to those discussed in Section 2.3.

Monitoring for explosivity 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 (mcg/m3) 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 mcg/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 mcg/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 mcg/m^3 of the upwind level and in preventing visible dust migration.

2.2 Work Area Monitoring

In addition to perimeter monitoring, monitoring for VOCs, 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.

2.3 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 the total organic vapor level decreases 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 2.4, Major Vapor Emission Response Plan.

2.4 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 Emergency Response Contacts as listed in the Health and Safety Plan will be contacted.
2. 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.

3. Air monitoring will be conducted at 30-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 Safety Officer.

3.0 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 Lu Engineers into 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.