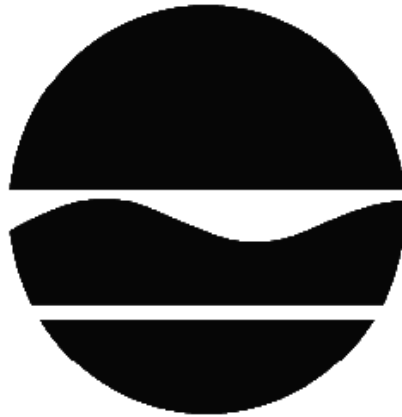


PROPOSED REMEDIAL ACTION PLAN

Utica St./Hamilton
Environmental Restoration Project
Hamilton, Madison County
Site No. E727011
January 2014



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of contaminants at the site resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2. Contaminants include hazardous wastes and/or petroleum.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy proposed by this Proposed Remedial Action Plan (PRAP). A No Further Action remedy may include continued operation of any remedial system installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the proposed remedy for the site. This PRAP identifies the IRM(s) conducted and discusses the basis for No Further Action.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Brownfields are abandoned, idled, or under-used properties where redevelopment is complicated by real or perceived environmental contamination. They typically are former industrial or commercial properties where operations may have resulted in environmental contamination. Brownfields often pose not only environmental, but legal and financial burdens on communities. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated, the property can then be reused.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

A public comment period has been set from: January 27, 2014 to March 12, 2014

A public meeting is scheduled for the following date: February 25, 2014, 6:00 PM

**Public meeting location: Village of Hamilton Public Library 13 Broad Street
Hamilton, New York 13346
Ph 315 824-3060**

At the meeting, the findings of the remedial investigation (RI) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through to:

Christopher F. Mannes III, P.E.
NYS Department of Environmental Conservation
Division of Environmental Remediation
615 Erie Blvd W
Syracuse, NY 13204
cfmannes@gw.dec.state.ny.us

The Department may modify the proposed remedy presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located at 47 Utica Street (RT 12B) in the Village of Hamilton, Madison County, New York.

Site Features: The site is approximately 0.25 acres in size. Currently, the site is vacant with broken pavement and gravel, with a one story structure (2-bay garage) which was a former automobile repair-gasoline station. The site is bordered by an automobile sales lot to the south, a liquor store to the north, small retail stores to the east, and residential homes to the west.

Current Zoning and Land Use: The site itself is zoned commercial and currently inactive. Areas surrounding the subject site are a mix of light commercial/retail properties as well as residential homes.

Past Use of the Site: The site was used as an automobile service station and at one time provided gasoline sales as well. Prior uses that appear to have led to contamination include petroleum contaminants originating from leaking underground fuel storage tanks and petroleum material storage.

Site Geology and Hydro-Geology: The top 18 inches are several layers of asphalt pavement and gravel. Underlying this layer is urban fill material, such as bricks, coal-ash, stone, sand, rubble, lumber, and broken up pavement to a depth of 3 to 5 feet; and brownish sand with silty-clays from 6 to 13 feet. Groundwater appears at approximately 9 feet below grade with a flow direction to the south-southwest.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

No PRPs have been documented to date.

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. Madison County will assist the state in its efforts by providing all information to the state which identifies PRPs. Madison County will also not enter into any agreement regarding response costs without the approval of the Department.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see:

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

BENZO(A)PYRENE	Chrysene
XYLENE (MIXED)	BENZO(B)FLUORANTHENE
indeno(1,2,3-cd)pyrene	BENZO[K]FLUORANTHENE
ETHYLBENZENE	BENZ(A)ANTHRACENE
DIBENZ[A,H]ANTHRACENE	N-PROPYLBENZENE
LEAD	MERCURY
1,2,4-TRIMETHYLBENZENE	ZINC

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

IRM Soil Excavations

Approximately 60 tons of visibly contaminated soil and debris were excavated and properly disposed off-site; two underground storage tanks (a 550 gallon petroleum and a 275 gallon waste oil tank) were removed; and a 275 gallon fuel oil above ground storage tank; a hydraulic lift and its hydraulic fluid contents, a gasoline pump island; debris from two floor sumps inside the repair garage bays, surface soil from two discrete areas outside the site's building, nine 55 gallon drums of various petroleum waste, and petroleum contaminated debris were also removed.

Post-IRM sampling indicated that some limited volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) remain in site soils at concentrations above unrestricted SCOs but, with the exception of one soil sample, concentrations are below commercial use SCOs, which is the current and anticipated zoning use for the site. The area where the soil sample exceeded the commercial SCOs was covered with a foot of clean soil.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

The Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 01, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

Soil:

Laboratory analysis of the surface soils identified the semi-volatile organic compound, benzo (a) pyrene, slightly above the commercial use SCO.

Laboratory analysis of the sub-surface soils identified volatile organic compounds (VOCs), including m,p-xylene, n-propylbenzene and 1,2,4 trimethylbenzene, above unrestricted use SCOs. Laboratory analysis of the sub-surface soils identified semi-volatile organic compounds (SVOCs), including benz(a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, indeno (1 2 3-cd) pyrene and dibenzo (a h) anthracene, at concentrations greater than unrestricted use SCOs . Laboratory analysis of subsurface soils identified volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) at concentrations below commercial use SCOs. Impacted surface and subsurface soils are limited to on-site, no off-site soils were affected.

Groundwater:

The results of the groundwater sampling and analysis indicate that the principal groundwater contaminants are VOCs (i.e., ethylbenzene and xylenes) and one SVOC (naphthalene). Concentrations of ethylbenzene are as high as 89 parts per billion (ppb) compared to the standard of 5 ppb, xylene concentrations are as high as 320 ppb compared to the standard of 5 ppb, naphthalene concentrations are as high as 48 ppb compared to the standard of 10 ppb. The groundwater plume is found in the southern portion of the site with some off-site impact to the south-southwest, which is in close proximity to the former underground tanks. The site presents a low environmental threat due to the contamination that remains in the groundwater. A public water supply provides service to the area.

Soil Vapor and Sub-slab Vapor:

Soil vapor investigations identified non-chlorinated VOCs and chlorinated VOCs. A slightly elevated concentration of tetrachloroethylene (PCE) was located outside of the northeast corner of the building within the northern portion of the property. The investigation shows that the soil vapor concentrations are limited to on-site and therefore off-site migration is not a concern. Further investigation or action is not warranted at this time because the structure is vacant and no complete routes of exposures currently exist.

The primary contaminants of concern at this site include VOCs and SVOCs associated with petroleum products.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Since some contaminated soils remain at the site below the site building, pavement, and clean backfill, people will not come in contact with contaminated soils unless they dig below the surface materials. People are not drinking the contaminated groundwater because the area is served by a public water supply not affected by site contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site building is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a concern for the site in its current condition. However, the potential exists for the inhalation of site contaminants due to soil vapor intrusion for any future on-site development. In addition, sampling indicates soil vapor intrusion is not a concern for off-site properties.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: SUMMARY OF PROPOSED REMEDY

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes continued operation of the implementation of ICs/ECs which include: green remediation principles and techniques, maintaining a site cover system, restriction of groundwater use, compliance with redevelopment as a commercial use property, and a site management plan for monitoring and future redevelopment. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRM already completed and the institutional and engineering controls are listed below:

1. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

2. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allows the use and development of the controlled property for commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department approved Site Management Plan.

3. A Site Management Plan is required, which includes the following:
 - a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.

Engineering Controls: The soil cover discussed in Paragraph 2 above.

This plan includes, but may not be limited to:

- o an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- o a provision for further investigation to refine the nature and extent of contamination in the following areas where access was previously hindered: within the footprint of the building if and when it is demolished
- o a provision for removal or treatment of the source area located under the building if and when the building is demolished.
- o descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- o a provision for evaluation of the potential for soil vapor intrusion should the use of the on-site building change and for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- o provisions for the management and inspection of the identified engineering controls;
- o maintaining site access controls and Department notification; and
- o the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

- b. A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- o installation, development, and sampling of groundwater monitoring wells
- o monitoring of groundwater to assess the performance and effectiveness of the remedy;
- o a schedule of monitoring and frequency of submittals to the Department; and
- o monitoring for vapor intrusion for any buildings as may be required by the Institutional and Engineering Control Plan discussed above.

4. Green remediation principles and techniques will be implemented to the extent feasible in the site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;

- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and in-organics (metals). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting groundwater, soil, and soil vapor.

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and source areas were identified at the site include a gasoline underground storage tank (UST), a waste oil tank (UST), the former gasoline pump island as well as areas inside the repair shop such as the service bays. Please refer to Figure 2 for reference.

The waste/source areas identified at the site were addressed by the IRM(s) described in Section 6.2.

Groundwater

Groundwater samples were collected from overburden monitoring wells. The samples were collected to assess groundwater conditions on and off-site. The results indicate that contamination in groundwater at the site exceeds the SCGs for volatile organic compounds, semi-volatile organic compounds and metals (inorganics).

Table 1 – Groundwater

Detected Constituents	Concentration Range Detected (ppb) ^a	SCG ^b (ppb)	Frequency Exceeding SCG ¹
VOCs			
ethyl benzene	3.1 to 89	5	16/32
xylene	8.9 to 320	5	13/32
SVOCs			
naphthalene	2.8 to 48	10	5/33
Metals (in-organics)			
arsenic	14.3 to 197	25	7/33
lead	6.1 to 260	25	9/33
Pesticides/PCBs			
PCBs	ND	-	0/

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

1- based on 32 or 33 groundwater samples obtained, shown as number of samples exceeding (#) out of (/) obtained.

The primary groundwater contaminants are ethyl benzene, xylene and naphthalene which are most likely associated with automobile repair operations as well as the petroleum UST and piping system at the former gas station. The initial groundwater sampling procedures did not include low-flow sampling techniques which likely produced high turbidity samples which are not representative of groundwater conditions and tend to yield artificially elevated metals concentrations. The sample results presented in Table 1 include the seven exceedences for arsenic and nine exceedences for lead from samples collected during the initial sampling event in which elevated turbidity was observed. Subsequent sampling events applied low-flow procedures which resulted in minimal turbidity and significantly lower metal concentrations, most notably for lead and arsenic. For these samples respective concentrations were either non-detect or below respective groundwater protection standards. The results for these samples are also presented in Table 1(above) as samples that were collected with results below the applicable SCGs.

The majority of the remaining inorganic compounds including iron, manganese and sodium, detected in on-site shallow groundwater were also found in upgradient monitoring wells. Thus, these compounds are considered naturally occurring and/or representative of background conditions (i.e., not considered contaminants of concern). Please refer to Groundwater Exceedances Figure 9 as reference.

Based on the findings of the RI, the presence of petroleum has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the

remediation of groundwater to be addressed by the remedy selection process are: ethyl benzene, xylene, and naphthalene. Please refer to Groundwater Exceedances- Figure 9.

Soil

Surface and subsurface soil samples were collected at the site during the Remedial Investigation (RI) and Interim Remedial Measures (IRMs). Surface soil samples were collected from a depth of 0-2 inches to assess direct human exposure. Subsurface soil samples were collected from a depth of two (2) to approximately twenty (20) feet to assess soil contamination impacts to groundwater. The results indicate that soils at the site exceed the unrestricted SCG for VOCs, SVOCs and metals. Following the IRM conducted in 2008, benzo(a)pyrene was the only contaminant in soil that exceeded the commercial use SCO at a concentration of 2.3 parts per million (ppm) vs. the SCO of 1 ppm. Please refer to Figures 6 and 7 for reference.

Table 2 - Soil

Detected Constituents	Concentration Range Detected (ppm) ^a	Unrestricted SCG ^b (ppm)	Frequency Exceeding Unrestricted SCG ¹	Restricted Use SCG ^c (ppm)	Frequency Exceeding Restricted SCG ¹
VOCs					
m, p-xylene ⁱ	ND to 3.4	0.26	1/6	500	0/6
n-Propylbenzene ⁱ	ND to 5.0	3.9	1/6	500	0/6
1,2,4 Trimethylbenzene ⁱ	ND to 10	3.6	1/10	190	0/6
SVOCs					
Benzo (a) anthracene ⁱ	0.14 to 1.7	1	2/6	5.6	0/6
Benzo (a) anthracene ^r	2.5	1	1/1	5.6	0/1
Chrysene ⁱ	0.12 to 1.8	1	2/6	56	0/6
Chrysene ^r	2.5	1	1/1	56	0/1
Benzo (b) fluoranthene ⁱ	ND to 1.8	1	2/6	5.6	0/6
Benzo (b) fluoranthene ^r	2.6	1	1/1	5.6	0/1
Benzo (k) fluoranthene ⁱ	ND to 0.67	0.8	0/6	56	0/6
Benzo (k) fluoranthene ^r	1.1	0.8	1/1	56	0/1
Benzo (a) pyrene ⁱ	ND to 1.5	1	2/6	1	2/6
Benzo (a) pyrene ^r	2.3	1	1/1	1	1/1
Indeno (123-cd) pyrene ⁱ	ND to 1.3	0.5	2/6	5.6	0/6
Indeno (123-cd) pyrene ^r	1.5	0.5	1/1	5.6	0/1
Dibenzo(a h) anthracene ⁱ	ND to 0.39	0.33	1/6	0.56	0/6
Dibenzo(a h) anthracene ^r	0.4	0.33	1/1	0.56	0/1
Metals (in-organics)					
Lead ^s	247 to 334	63	3/3	1000	0/3
Lead ^{sb}	87.9	63	1/1	1000	0/1
Mecury ^s	0.13 to 0.28	0.18	2/3	2.8	0/3
Mecury ^{sb}	0.3	0.18	1/1	2.8	0/3
Zinc ^s	155 to 756	109	3/3	10000	0/3

Detected Constituents	Concentration Range Detected (ppm) ^a	Unrestricted SCG ^b (ppm)	Frequency Exceeding Unrestricted SCG ¹	Restricted Use SCG ^c (ppm)	Frequency Exceeding Restricted SCG ¹
Zinc ^{sb}	137	109	1/1	10000	0/1

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.

c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.

s- Surface sample, defined as taken from top surface (0) to 2 inches depth, RI 2006

sb - soil/debris sample from service bay inside repair shop structure-endpoint sampling during IRM efforts 2007

i- UST soil confirmation samples obtained during IRM efforts 2006

r- Soil confirmation samples obtained during supplemental IRM efforts 2008

ND - none detected

1- Shown as number of samples exceeding (#), out of (/) obtained.

Soil contamination identified during the RI was addressed during the IRM described in Section 6.2.

Based on the findings of the Remedial Investigation, soil contamination is limited to on-site. The site contaminant identified in soil which is considered to be the primary contaminant of concern, to be addressed by the remedy selection process is benzo (a) pyrene.

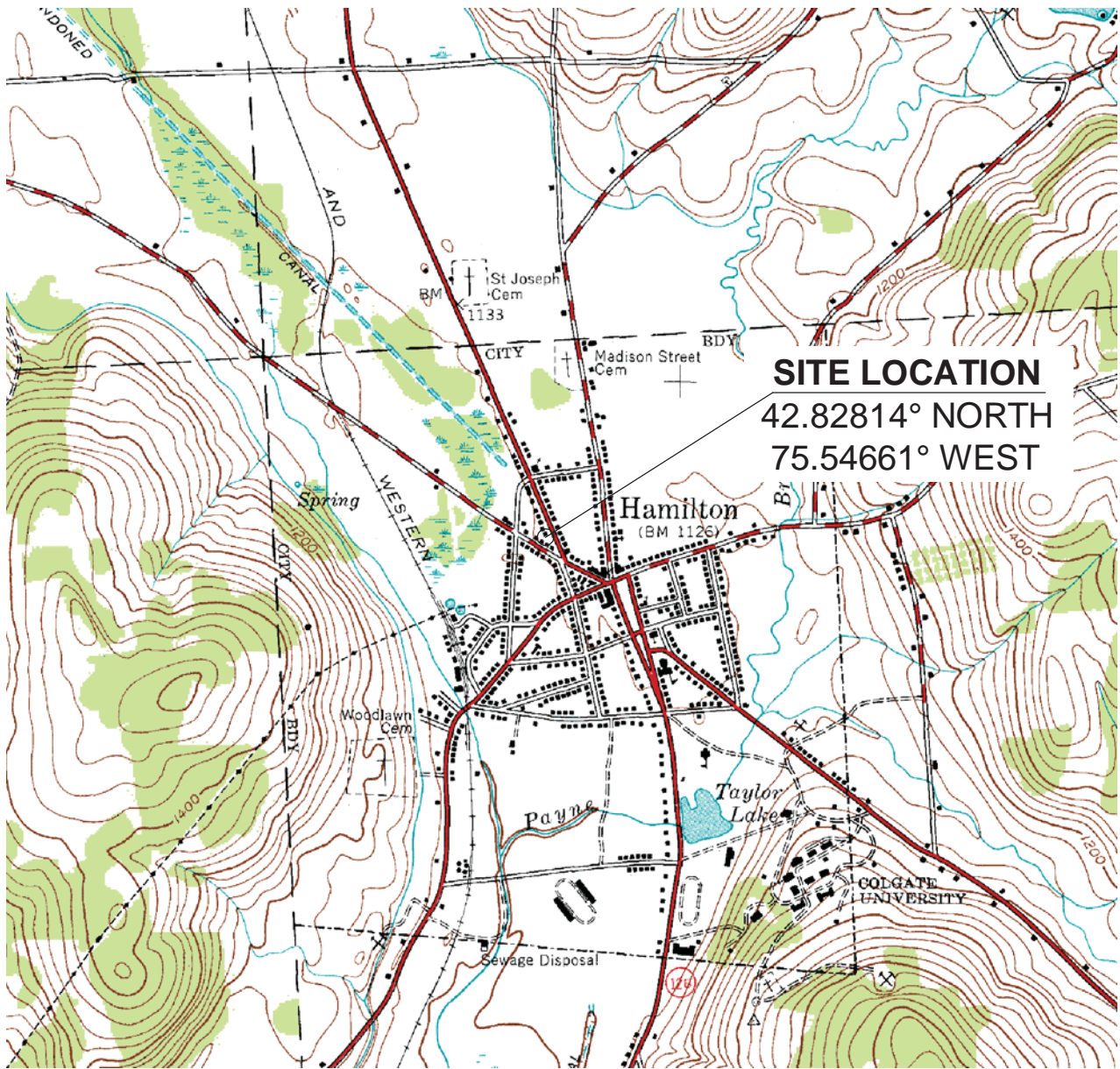
Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of soil vapor and sub-slab soil vapor under the structure.

Soil vapor samples were collected from areas surrounding the building and the sub-slab of the structure at the 47 Utica Street property. The samples were collected to assess the potential for soil vapor intrusion. Tetrachloroethene (PCE), m & p xylene and toluene were detected in the on-site sub-slab vapor as well as in the soil vapor. Indoor air samples, which are typically taken concurrent with sub-slab vapor samples, were not collected because the structure is vacant and not suitable for occupation.

Based on the concentration detected, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, the potential exists for the occurrence of soil vapor intrusion within the 47 Utica Street Site. The primary soil vapor contaminants are tetrachloroethene (PCE), m & p xylene and toluene which are typically associated with petroleum and the degreasing of metal parts. The primary soil vapor contamination is found under the building and in the soil vapor in the close proximity to the on-site building. Soil vapor points were installed and testing completed along the property perimeter. Figure 2 illustrates (dark triangles with a SVW-“X” label) the locations of the soil vapor points installed around the perimeter of the property. The sample results did not indicate that any vapor phase contaminants of concern are migrating off-site.

Based on the findings of the Remedial Investigation, the presence of chlorinated and non-chlorinated VOCs and degreasing compounds has resulted in the contamination of soil vapor. The site contaminant that is considered to be the primary contaminant of concern which will drive the remediation of soil vapor to be addressed by the remedy selection process is tetrachloroethene (PCE).



SITE LOCATION
 42.82814° NORTH
 75.54661° WEST

CONTOUR INTERVAL: 20 FEET

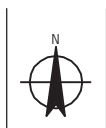


QUADRANGLE LOCATION

MAP TAKEN FROM: USGS 7.5 MINUTE SERIES
 TOPOGRAPHIC QUADRANGLE
 HAMILTON (1943, PHOTOINSPECTED 1976)
 (www.nysgis.state.ny.us/quads/usgsdrg.htm)



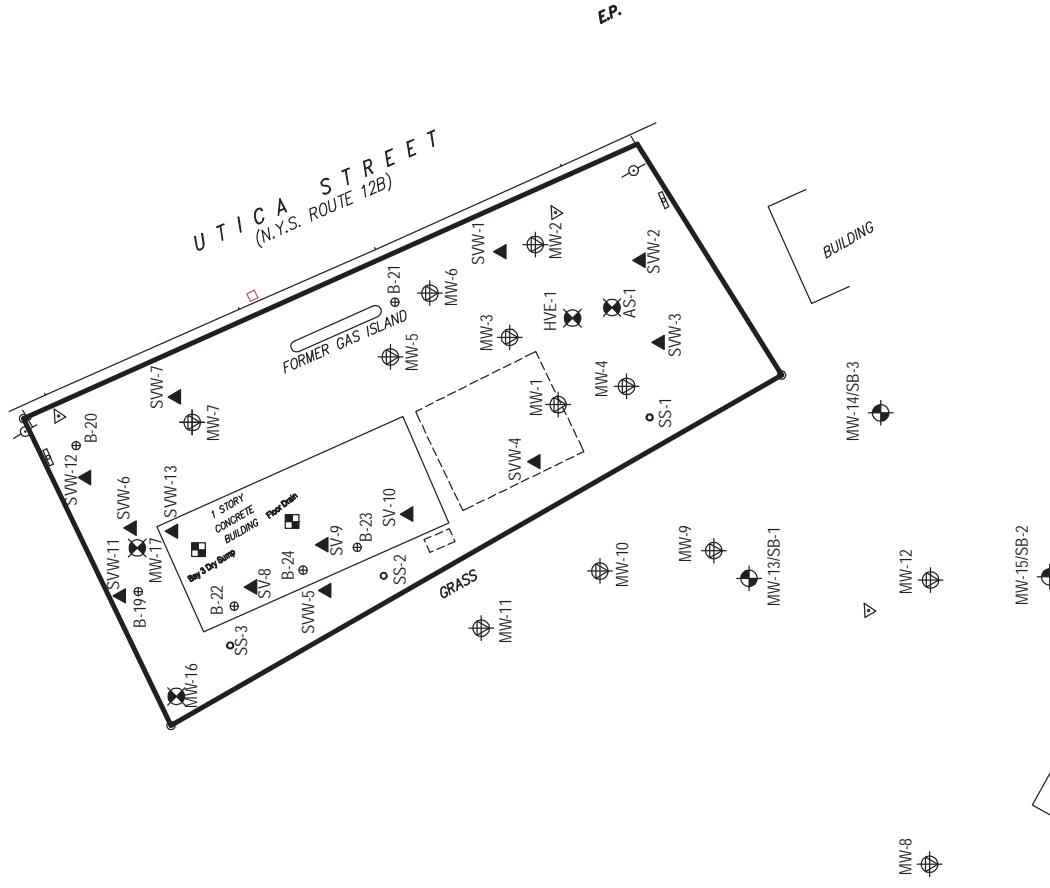
SCALE 1"=2,000' AT ORIGINAL SIZE



Madison County
 47 Utica Street
 ERP Site #E727011
 Site Location Map

Job Number | 86-12051
 Revision | A
 Date | 07.30.13

Figure 1



LEGEND:

- ⊗ GROUNDWATER MONITORING WELL (2006)
- ⊗ GROUNDWATER MONITORING WELL (2002)
- ▼ SOIL VAPOR MONITORING WELL (2006)
- ⊕ SOIL BORING (2006)
- SURFACE SOIL SAMPLE (2006)
- ⬢ FLOOR DRAIN AND DRY SUMP SAMPLE
- ⊠ LOCATION OF FORMER USTs (APPROXIMATE)
- SITE BOUNDARY (APPROXIMATE)

MONITORING WELL LOCATIONS 2, 3, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, HVE-1 & AS-1, & ALL SOIL VAPOR WELL LOCATIONS WERE SURVEYED (BRYANT, 2006). ALL OTHER SAMPLE LOCATIONS ARE APPROXIMATE.

Job Number | 86-12051
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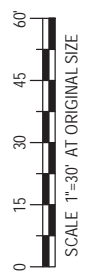
Figure 2

Madison County
 47 Utica Street
 ERP Site # E727011
Site Layout



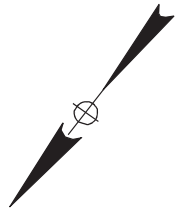
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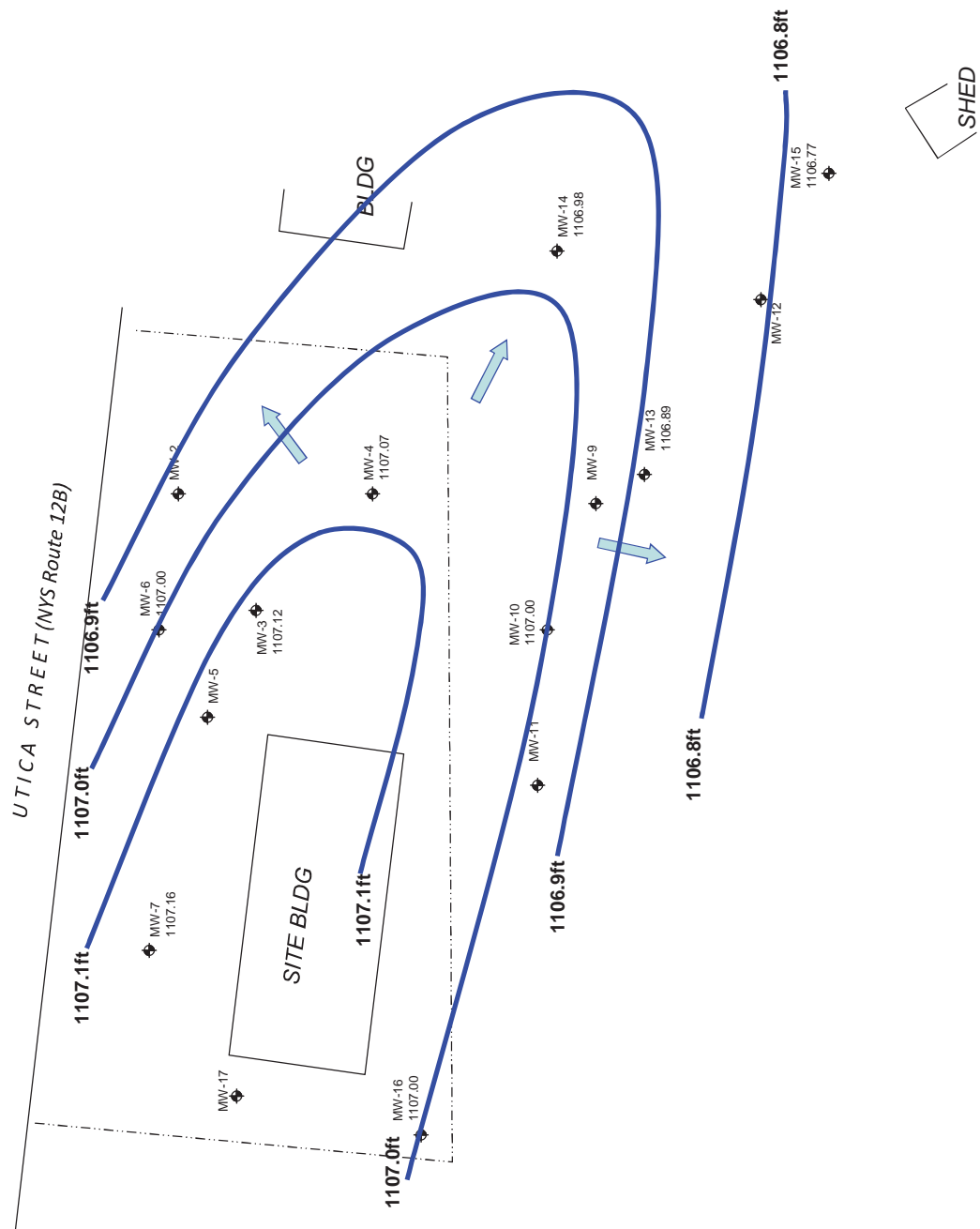


Monitoring well
Groundwater Elev. (ft)

Notes:
MW-2, MW-5, MW-8, MW-9, MW-11, and MW-12
were not included in the March 2009 sampling scope

Groundwater Elevation Contour (ft)

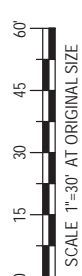
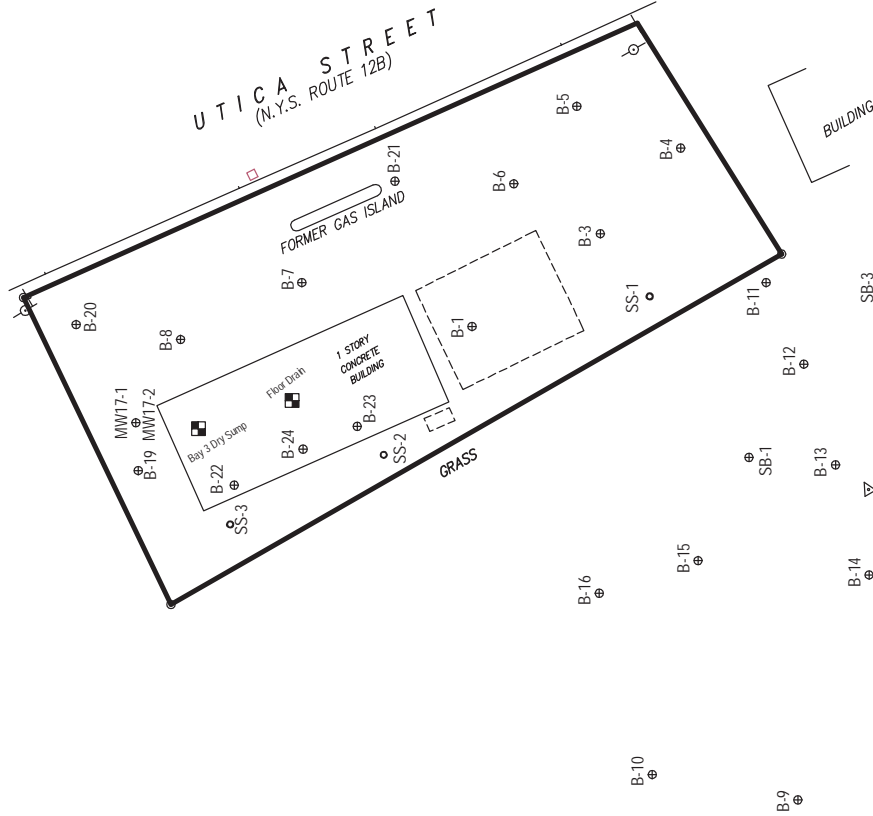
Groundwater Flow Direction



DATE: March 2012 Job No.: 86-12501

Site Management Plan
Madison County
47 Utica Street ERP Site
Village of Hamilton
Madison County, NY

Figure - 3
Groundwater Elevation Contours (March 2009)



BASED ON SURVEY BY BRYANT ASSOCIATES, P.C. OCTOBER 20, 2006



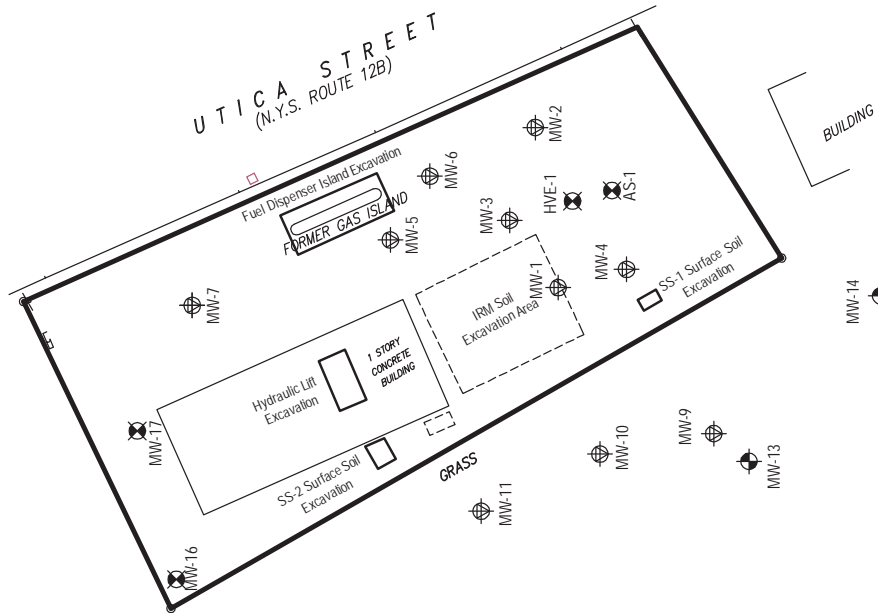
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Madison County
 47 Utica Street
 ERP Site # E727011
Soil Sample Locations

Job Number | 86-12051
 Revision | A
 Date | 07.30.13

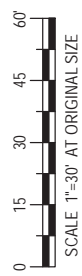
Figure 4

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LEGEND:

- GROUNDWATER MONITORING WELL (2006)
- GROUNDWATER MONITORING WELL (2002)
- LOCATION OF FORMER USTs AND SOIL EXCAVATION (APPROXIMATE)
- AREA OF SOIL EXCAVATION (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)



BASED ON SURVEY BY BRYANT ASSOCIATES, P.C. October 20, 2006



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Madison County
 47 Utica Street
 ERP Site # E727011
Extent of Remedial Excavation

Job Number | 86-12051
 Revision | A
 Date | 07.30.13

Figure 5

One Remington Park Drive, Cazenovia NY 13035 USA T 1 315 679 5600 F 1 315 679 5653 E cazmail@ghd.com W www.ghd.com

Analyte	PH-1N	PH-2E	PH-3W	PH-4S
Acetone	0.18	0.2		0.6
Methylene Chloride	0.065		0.059	0.057
Benzofluoranthene		1.3		
Chrysene		1.2		
Benzofluoranthene		1.4		
Benzopyrene		1.1		
Indeno[1,2,3-cd]pyrene		1.3		
Dibenzofluoranthene		0.36		

Analyte	B-7
Xylenes (Total)	0.31

Analyte	MW-12 (13-14)
Acetone	0.064

Analyte	H1 Sediment	H1 Bottom
Benzofluoranthene	1.1	1.7
Chrysene	1.1	2.1
Benzofluoranthene	1.4	1.4
Benzopyrene	1.0	0.52

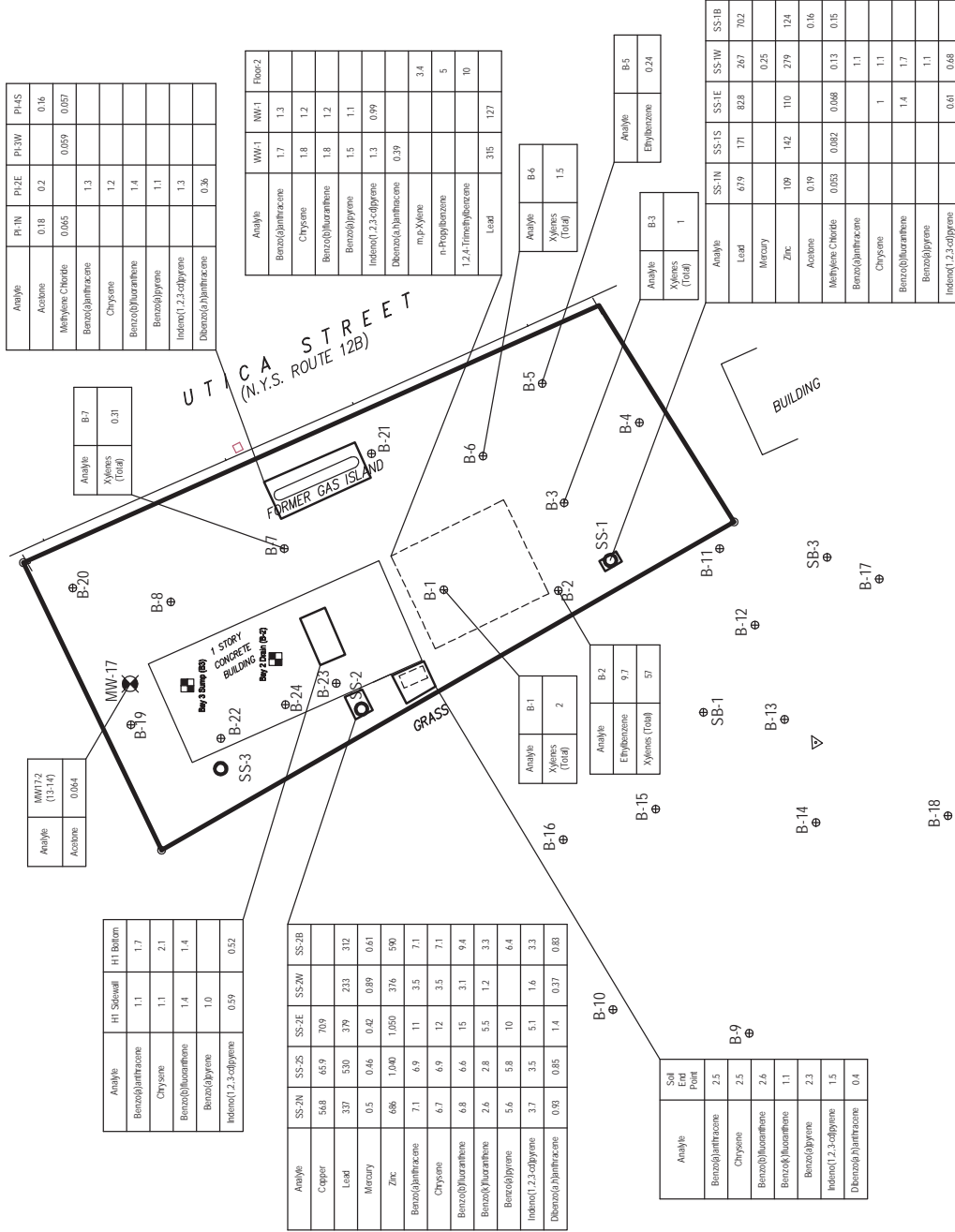
Analyte	SS-2N	SS-2S	SS-2E	SS-2W	SS-2B
Copper	648	65.9	709		
Lead	337	530	379	233	312
Mercury	0.5	0.46	0.42	0.89	0.61
Zinc	686	1,040	1,050	376	590
Benzofluoranthene	7.1	6.9	11	3.5	7.1
Chrysene	6.7	6.9	12	3.5	7.1
Benzofluoranthene	6.8	6.6	15	3.1	9.4
Benzofluoranthene	2.6	2.8	5.5	1.2	3.3
Benzopyrene	5.6	5.8	10	6.4	6.4
Indeno[1,2,3-cd]pyrene	3.7	3.5	5.1	1.6	3.3
Dibenzofluoranthene	0.93	0.85	1.4	0.37	0.83

Analyte	WW-1	MW-1	Floor-2
Benzofluoranthene	1.7	1.3	
Chrysene	1.8	1.2	
Benzofluoranthene	1.8	1.2	
Benzopyrene	1.5	1.1	
Indeno[1,2,3-cd]pyrene	1.3	0.99	
Dibenzofluoranthene	0.39		
m-xylene			3.4
n-Propylbenzene			5
1,2,4-Trimethylbenzene			10
Lead		315	127

Analyte	B-6	B-4
Xylenes (Total)	1.5	

Analyte	B-3
Xylenes (Total)	1

Analyte	SS-1N	SS-1S	SS-1E	SS-1W	SS-1B
Lead	679	171	828	267	702
Mercury				0.25	
Zinc	109	142	100	279	134
Acetone	0.19				0.16
Methylene Chloride	0.059	0.082	0.068	0.13	0.15
Benzofluoranthene				1.1	
Chrysene			1	1.1	
Benzofluoranthene			1.4	1.7	
Indeno[1,2,3-cd]pyrene			0.61	0.68	



LEGEND:

- LOCATION OF FORMER USTs AND SOIL EXCAVATION (APPROXIMATE)
- AREA OF IRM SOIL EXCAVATION (APPROXIMATE)
- SURFACE SOIL SAMPLE LOCATIONS (APPROXIMATE)
- ⊗ SUBSURFACE SOIL SAMPLE LOCATIONS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)

NOTES:

1. TEXT BOXES INDICATE SOIL BORING ANALYTICAL RESULTS THAT EXCEEDED UNRESTRICTED USE SCOs. ASSUMED REMEDIAL ACTION TO ACHIEVE THE RESTORATION TO PRE-DISPOSAL OR UNRESTRICTED CONDITIONS ALTERNATIVE WOULD ENTAIL REMOVAL OF THE BUILDING AND SLAB EXCAVATION OF SOILS ACROSS THE SITE TO A DEPTH OF FIVE (5) FEET, AND IMPLEMENTATION OF A GROUNDWATER IN-SITU TREATMENT TO ACHIEVE NEW YORK STATE GROUNDWATER STANDARDS.
2. ALL RESULTS ARE REPORTED AS mg/kg (PARTS PER MILLION)
3. ONLY ANALYTES THAT EXCEEDED UNRESTRICTED USE SCOs ARE INCLUDED HERE. FOR A COMPLETE LIST OF ANALYTICAL RESULTS SEE TABLES.
4. BLANK CELLS INDICATE ANALYTE WAS NOT DETECTED ABOVE UNRESTRICTED USE SCOs.
5. END-POINT SOIL SAMPLES WW-1 AND MW-1 TAKEN FROM THE SIDEWALLS OF THE IRM EXCAVATION AREA (SWRNA, 2005).
6. END-POINT SOIL SAMPLE FLOOR-2 TAKEN FROM THE FLOOR OF THE IRM EXCAVATION AREA (SWRNA, 2005).
7. END-POINT SOIL SAMPLES SS-1N, SS-1S, SS-1E, SS-1W TAKEN FROM THE SIDEWALLS OF THE SS-1 SURFACE SOIL EXCAVATION AREA (SWRNA, 2007).
8. END-POINT SOIL SAMPLE SS-1B TAKEN FROM THE FLOOR OF THE SS-1 SURFACE SOIL EXCAVATION AREA (SWRNA, 2007).
9. END-POINT SOIL SAMPLES SS-2N, SS-2S, SS-2E, AND SS-2W TAKEN FROM THE SIDEWALLS OF THE SS-2 SURFACE SOIL EXCAVATION AREA (SWRNA, 2007).
10. END-POINT SOIL SAMPLE SS-2B TAKEN FROM THE FLOOR OF THE SS-2 SURFACE SOIL EXCAVATION AREA (SWRNA, 2007).
11. END-POINT SOIL SAMPLES PH-1N, PH-2E, PH-3W, AND PH-4S TAKEN FROM THE SIDEWALLS OF THE FUEL DISPENSER ISLAND EXCAVATION AREA (SWRNA, 2007).
12. END-POINT SOIL SAMPLES H1 SIDEWALL AND H2 BOTTOM TAKEN FROM THE SIDEWALL AND FLOOR OF THE HYDRAULIC LIFT EXCAVATION AREA, RESPECTIVELY (SWRNA, 2007).
13. END-POINT SOIL SAMPLE END POINT TAKEN FROM THE SIDEWALL OF THE SUPPLEMENTAL SOIL EXCAVATION AROUND SS-2 (SWRNA, 2008).

Madison County
 47 Utica Street
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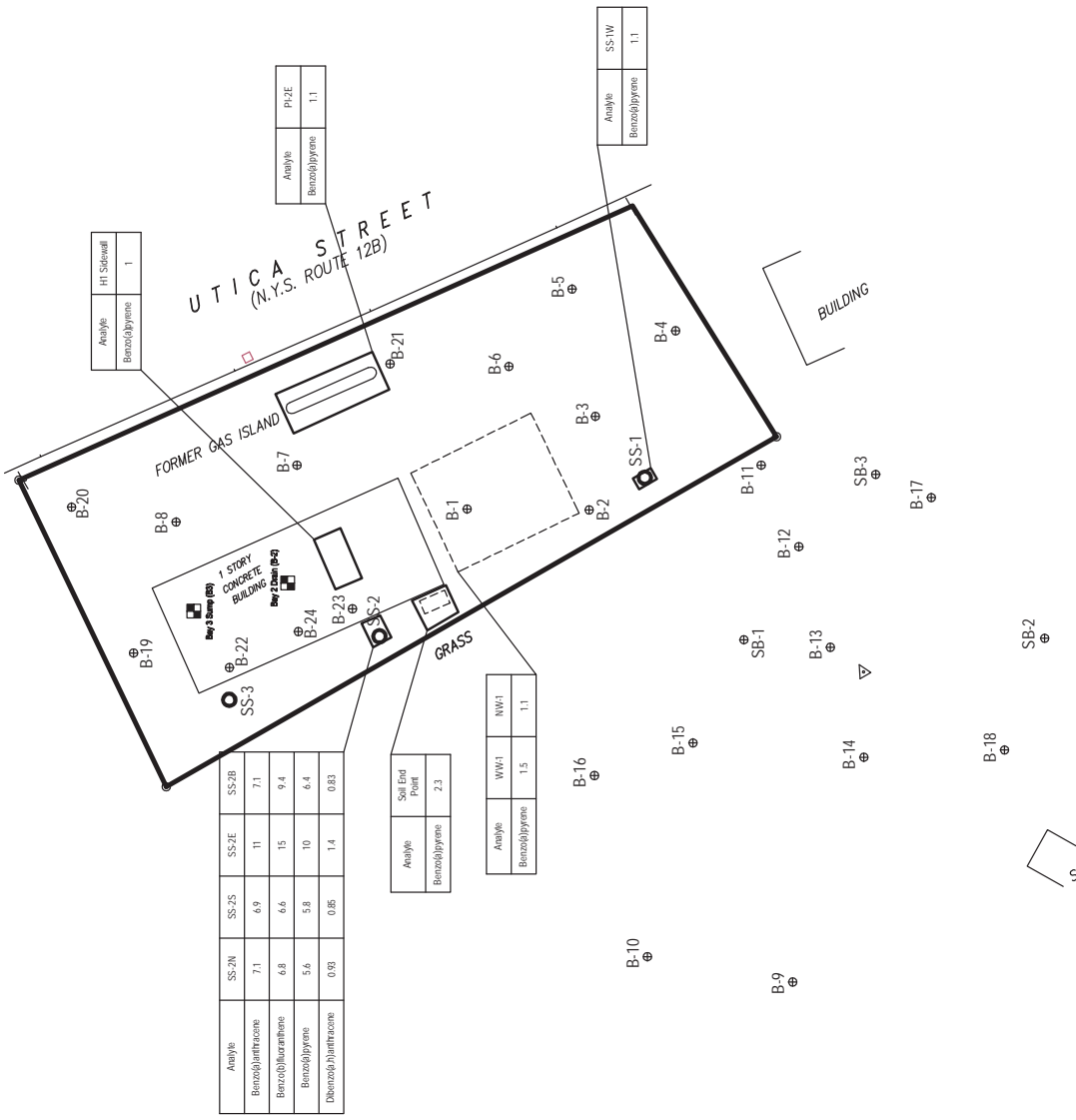
Alternative 3 - Excavation to Unrestricted Soil Cleanup Objectives Figure 6



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LEGEND:

- - - - - LOCATION OF FORMER USTS AND SOIL EXCAVATION (APPROXIMATE)
- ▭ AREA OF IRM EXCAVATION (APPROXIMATE)
- SURFACE SOIL SAMPLE LOCATIONS (APPROXIMATE)
- ⊗ SUBSURFACE SOIL SAMPLE LOCATIONS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)

NOTES:

1. ONLY SAMPLES THAT EXCEEDED COMMERCIAL USE SOIL CLEANUP OBJECTIVES FOR AT LEAST ONE ANALYTE ARE SHOWN HERE (SEE TABLES IN REPORT FOR FULL ANALYTICAL RESULTS).
2. REMEDIAL ACTION TO ACHIEVE THE NO FURTHER ACTION WITH SITE MANAGEMENT ALTERNATIVE WOULD INCLUDE:
 - MAINTAINING EXISTING SOIL COVER
 - IMPLEMENT AN ENVIRONMENTAL EASEMENT
 - DEVELOP AND IMPLEMENT A SITE MANAGEMENT PLAN AND
 - INSTALL, OPERATE, AND MAINTAIN A SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS)
3. IF THE EXISTING BUILDING, OR FUTURE BUILDINGS, ARE OCCUPIED IN THE FUTURE EXCAVATION AREA (SWIRNA, 2007)
4. END-POINT SOIL SAMPLE SS-1W TAKEN FROM THE SIDEWALL OF THE SS-1 - SURFACE SOIL EXCAVATION AREA (SWIRNA, 2007).
5. END-POINT SOIL SAMPLES SS-2N, SS-2S, SS-2E TAKEN FROM THE SIDEWALLS OF THE SS-2 - SURFACE SOIL EXCAVATION AREA (SWIRNA, 2007).
6. END-POINT SOIL SAMPLE SS-2B TAKEN FROM THE FLOOR OF THE SS-2 - SURFACE SOIL EXCAVATION AREA (SWIRNA, 2007).
7. END-POINT SOIL SAMPLE PI-2E TAKEN FROM THE SIDEWALL OF THE FUEL DISPENSER ISLAND EXCAVATION AREA (SWIRNA, 2007).
8. END-POINT SOIL SAMPLE HI SIDEWALL TAKEN FROM THE SIDEWALL OF THE HYDRAULIC LIFT EXCAVATION AREA (SWIRNA, 2007).
9. END-POINT SOIL SAMPLE SOIL END POINT TAKEN FROM THE SIDEWALL OF THE SUPPLEMENTAL SOIL EXCAVATION AROUND SS-2 (SWIRNA, 2008).

Analyte	HI Sidewall
Benzol(b)pyrene	1

Analyte	PI-2E
Benzol(b)pyrene	1.1

Analyte	SS-1W
Benzol(b)pyrene	1.1

Analyte	SS-2N	SS-2S	SS-2E	SS-2B
Benzol(a)anthracene	7.1	6.9	11	7.1
Benzol(b)anthracene	6.8	6.6	15	9.4
Benzol(g)pyrene	5.6	5.8	10	6.4
Dibenzol(h)anthracene	0.93	0.85	1.4	0.83

Analyte	Soil End Point
Benzol(b)pyrene	2.3

Analyte	WW-1	NW-1
Benzol(b)pyrene	1.5	1.1

Madison County
 47 Utica Street
 ERP Site # E727011
**Alternative 2 - No Further Action
 with Site Management**

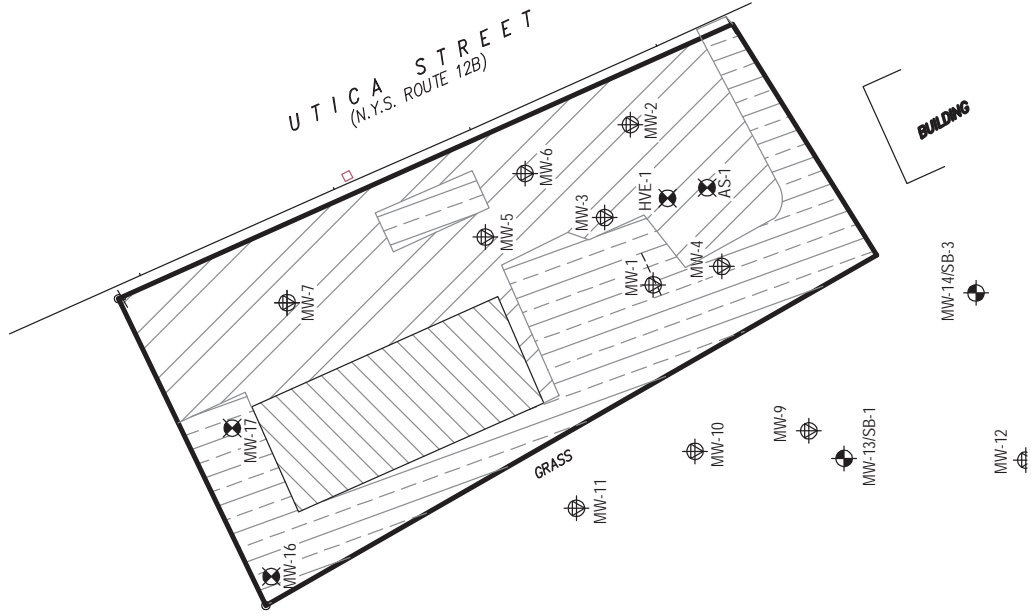
Job Number 86-12051
 Revision A
 Date 07.30.13
Figure 7

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SCALE 1"=30' AT ORIGINAL SIZE



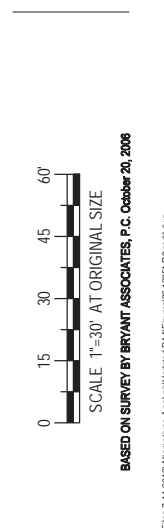
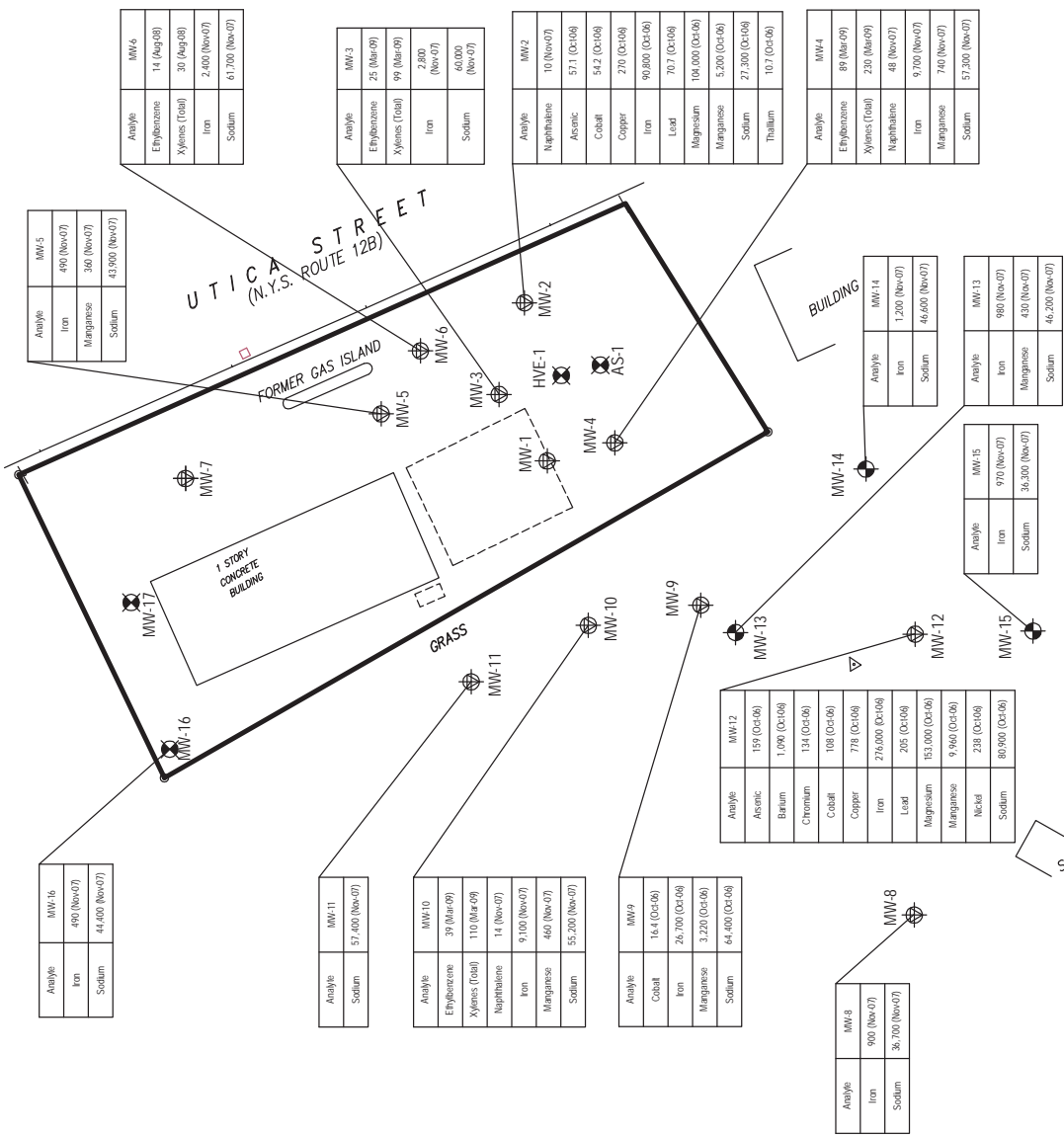
Job Number 86-12051
 Revision A
 Date 07.30.13

Madison County
 47 Utica Street
 ERP Site # E727011
Location of Cover Types

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Figure 8

Post Date: 26 August 2013 - 9:19 AM
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