Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Utica City Dump
Utica (C), Oneida County, New York
Site No. 6-33-015

August 2003

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* ERIN M. CROTTY, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

UTICA CITY DUMP
Utica, Oneida County, New York
Site No. 6-33-015

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Utica City Dump class 2 inactive hazardous waste disposal site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Utica City Dump inactive hazardous waste site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and the environment.

Description of Selected Remedy

Based on the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Utica City Dump, the criteria identified for evaluation of alternatives and comments received on the PRAP, the NYSDEC has selected Alternative 4b, current NYCRR Part 360 Cap, along with Subalternative 6, Sediment Removal, as the remedy for this site. The components of the remedy are as follows:

- Landfill closure (52 acres east of the Hardfill Area) according to the 1999 New York State Part 360 Regulations, to prevent exposure to surface soils and to reduce the generation of landfill leachate;
- Selected waste excavation with placement under the cap, to limit potential exposure to waste;
- Demolition and disposal of the onsite incinerator and surrounding structure(s) in order to construct the cover;
- Fencing to prevent trespassing;
- Institutional controls to prevent use of site groundwater and disturbance of the landfill cap;

- Sediment removal (with replacement of clean fill) along the eastern banks of the landfill, to prevent the exposure of fish and wildlife to levels of PCBs above standards/guidance values; and
- Monitoring to confirm the effectiveness of the remedial actions.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

AUG 11 2003

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

TABLE OF CONTENTS

RECORD OF DECISION

Utica City Dump
Utica, Oneida County, New York
Site No. 6-33-015

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health has selected this remedy to address the significant threat to human health and/or the environment created by the presence of hazardous waste at the Utica City Dump class 2, inactive hazardous waste disposal site. As more fully described in Sections 3 and 4 of this document, landfilling has resulted in the disposal of a number of hazardous wastes at the site, including electrochemical milling sludge. These disposal activities have resulted in the following significant threats to the public health and/or the environment:

- A significant threat to human health associated with surface soils, sediment, groundwater and leachate; and
- A significant environmental threat associated with the impacts of PCB contamination to surface water and sediment in the Mohawk River.

In order to restore the Utica City Dump inactive hazardous waste disposal site to pre-disposal conditions to the extent feasible and authorized by law, but at a minimum to eliminate or mitigate the significant threats to the public health and/or the environment that the hazardous waste disposed at the site has caused, the following remedy was selected:

- Landfill closure (52 acres east of the Hardfill Area) according to the 1999 NYS Part 360 Regulations, to prevent exposure to surface soils and reduce the generation of landfill leachate;
- Selected waste excavation with placement under the cap, to limit potential exposure to waste;
- Demolition and disposal of the onsite incinerator and surrounding structures, in order to construct the cover;
- Fencing to prevent trespassing;
- Institutional controls to prevent use of site groundwater and disturbance of the landfill cap;
- Sediment removal (with replacement of clean fill) along the eastern banks of the landfill, to prevent the exposure of fish and wildlife to levels of PCBs above standards/guidance values; and
- Monitoring to confirm the effectiveness of the remedial actions.

The selected remedy, discussed in detail in Section 8 of this document, is intended to attain the remediation goals selected for this site, in Section 6 of this Record of Decision (ROD), in conformity with applicable standards, criteria, and guidance (SCGs).

SECTION 2: SITE LOCATION AND DESCRIPTION

The Utica City Dump (Site # 6-33-015) is located in the City of Utica, Oneida County. The portion of the site that reportedly received hazardous waste is approximately 52 acres. It is located east of Leland Ave. along Incinerator Road, between the Erie Canal (to the north) and the Mohawk River (to the east and south). This total amount of land bordered by the road and the two water bodies is about 200 acres. The surrounding setting is urban. The waste is 10 to 15 feet deep in most areas, with a significant portion saturated with water. See the location and site maps (see Figure 1) for further reference. The City of Utica is the owner of the Utica City Dump. The only access restriction to the site is a gate at the Leland Ave. entrance to the tow path road along the canal that leads to the landfill. Universal Waste (Site # 6-33-009) is a Class 2a site located along the Mohawk River, half a mile southwest of the Utica City Dump. Immediately adjacent to that site is Utica Alloys (Site # 6-33-009), another Class 2 inactive hazardous waste disposal site.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

c. 1930	Incinerator begins operation; ash disposed on nearby farms.
1930-1960	Gradual expansion of ash disposal area; use of land as an open dump.
1960	Incinerator shut down.
1960s-1972	Waste is placed on eastern end of site using the trench method.
1972	Old landfill closes (55 acres).
1972-1997	Hardfill Area ("Leland Ave. Landfill") - 7 acres is used for disposal of construction and demolition debris, brush and leaves.
1977	NYSDEC grants permit for disposal in the Hardfill Area.
1983	NYSDEC cites City of Utica for presence of drums of unknown liquids, crankcase oil, and refuse in Hardfill Area, plus a lack of security.
1985	NYSDEC denies City of Utica's request for a new permit for the Hardfill Area, citing violations of State landfill regulations.
1986-1996	NYSDEC negotiates with the City of Utica for closure of the Hardfill Area.

3.2: Remedial History

1985-1988	NYSDEC conducted Phase I Investigation.
1990-1992	NYSDEC conducted Phase II Site Investigation.
1993	Landfill is determined to be a significant threat due to groundwater contamination in excess of standards and presence of several drums containing hazardous waste. The Utica City Dump is classified as a Class 2 site.
1994-1996	Negotiations with City of Utica to start a remedial program.
1996	Arson Emergency - Utica receives federal aid to demolish abandoned houses; seeks NYSDEC's approval to place debris on the old dump
1997	NYSDEC grants approval to use the old dump, in part, on condition that the City of Utica closes the Hardfill Area. The City of Utica completes closure and covering with low permeability soil of Hardfill Area under order. Arson related demolition material is disposed of in the central part of the landfill. Considered an Interim Remedial Measure due to improved grades.
1997	Hardfill Area closed under consent order.
1997	After unsuccessful negotiations, the NYSDEC receives referral to use State Superfund money to investigate the landfill.
1997-2000	Remedial Investigation/ Feasibility Study performed.

SECTION 4: 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.

The Potential Responsible Parties (PRP) for the site, documented to date, include: the Bendix Fluid Power Division, the Utica Division of Kelsey-Hayes Co., and the City of Utica.

The PRPs declined to implement the RI/FS at the site when requested by the NYSDEC. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the NYSDEC will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State has incurred.

SECTION 5: SITE CONTAMINATION

To evaluate the contamination present at the site and to evaluate alternatives to address the significant threat to human health and the environment posed by the presence of hazardous waste, the NYSDEC conducted a Remedial Investigation/ Feasibility Study (RI/FS).

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted in two phases. The first phase was conducted between April and June 1998, and the second phase between October and November 1999. A report entitled Remedial Investigation Report, Utica City Dump, August 2000, has been prepared which describes the field activities and findings of the RI in detail.

The RI included the following activities:

- Preparation of a detailed topographic map of the area;
- Completion of a detailed waste area investigation, which included magnetometry to look for drum clusters and digging test pits to find the extent of the waste;
- Completion of a detailed human health and ecological assessment for the site;
- Completion of a detailed groundwater investigation in the overburden; and
- Completion of a multi-media sampling program including surface and subsurface soils, leachate, surface water and sediment sampling.

To determine which media (soil, groundwater, etc.) are contaminated at levels of concern, the RI analytical data was compared to environmental standards, criteria, and guidance values (SCGs). Groundwater, drinking water, and surface water SCGs identified for the Utica City Dump site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part 5 of New York State Sanitary Code. For soils, NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 provides soil cleanup guidelines for the protection of groundwater, background conditions, and health-based exposure scenarios. In addition, for soils, site-specific background concentration levels can be considered for certain classes of contaminants. Guidance values for evaluating contamination in sediments are provided by the NYSDEC "Technical Guidance for Screening Contaminated Sediments".

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site, summarized below, require remediation. More complete information can be found in the RI Report.

Chemical concentrations are reported in parts per billion (ppb), or parts per million (ppm). For comparison purposes, where applicable, SCGs are provided for each medium.

5.1.1: Site Geology and Hydrogeology

The site is located in the Mohawk River Valley, which is underlain by the Utica Shale Formation in excess of 100 feet below ground surface (bgs). The site geology consists of glacial till, outwash and lake sediments. The glacial outwash deposits consist of interbedded sand and gravel deposits. The glacial lacustrine sediments consist of silt and clay deposits. Recent floodplain sediments of the Mohawk River cap the glacial deposits and represent the current undisturbed surface.
There is a thin soil cover over most of the refuse, but is absent in many locations. The waste layer is about 10 to 15 feet thick. Below the waste is a 100-foot layer of fluvial deposits consisting of the low permeability silts and clays described above. The Utica Shale underlies this deposit.

The local groundwater is located from 1 to 15 feet below the ground surface at the site. Some waste in the landfill exists below the water table, and is saturated. The groundwater flow at the site is influenced by the seasonal water level changes in the Erie Canal and the Mohawk River.

5.1.2: Nature of Contamination

As described in the RI report, surface and subsurface soil, groundwater, surface water, leachate, and sediment samples were collected at the site to characterize the nature and extent of contamination.

The main categories of contaminants which exceed their SCGs are inorganics (metals), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs).

The inorganic contaminants of concern are arsenic, aluminum, barium, cadmium, copper, lead, iron, manganese, mercury, and nickel. The volatile organic contaminants of concern are benzene, chlorobenzene, 1,2- dichloroethene, and vinyl chloride. The semi-volatile organic contaminants of concern are benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, dibenzofuran, fluoranthene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and bis(2-ethylhexyl)phthalate. Other contaminants of concern are pesticides (4,4'-DDD and 4,4'-DDT) and PCBs (Aroclor 1242, 1248 and 1254).

The contaminants of concern were found in several of the media sampled. The concentrations of PCBs and metals exceeded criteria values per the NYSDEC guidance values in the sediment of the Mohawk River along the southeast side of the landfill. Metals were also found in the surface soils, groundwater, and leachate. SVOCs are above the cleanup criteria in the surface water, surface soils, and sediment at the landfill.

Table 1
Nature and Extent of Contamination

MEDIUM	CATEGORY	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppm)	FREQUENCY of EXCEEDING SCGs/Background	SCG/ Bkgd. (ppm)
Surface Soils (ppm)	Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthracene	0.049 to 53.0	12 of 15	0.224
		Benzo(a)pyrene	0.053 to 33.0	14 of 15	0.061
		Benzo(b)fluoranthene	0.087 to 41.0	10 of 15	1.1
		Indeno(1,2,3-cd)pyrene	0.035 to 20.0	3 of 15	3.2
		Dibenzo(a,h)anthracene	0.011 to 1.4	13 of 15	0.014
		Dibenzofuran	0.005 to 15.0	1 of 15	6.2
		Fluoranthene	0.170 to 100.0	1 of 15	50.0
Surface Soils (ppm)	Inorganics (Metals)	Arsenic	3.9 to 11.5	6 of 15	7.5
		Cadmium	ND (0.350) to 4.8	4 of 15	1.0
		Copper	29.6 to 2,600	9 of 15	60.9
		Lead	17.9 to 504	11 of 15	28.6
		Mercury	ND (0.060) to 1.1	9 of 15	0.100
		Nickel	16.2 to 378	4 of 15	37.3
Sediment (ppm)	Semivolatile Organic Compounds (SVOCs)	Benzo(a)pyrene	0.220 to 4.0	9 of 24	1.3
Sediment (ppm)	PCBs	Aroclor 1248	ND (0.045) to 3.2	4 of 24	1.0*
		Aroclor 1254	ND (0.045) to 18.0	19 of 24	1.0*
Sediment (ppm)	Inorganics (Metals)	Arsenic	1.9 to 20.7	20 of 24	6.0
		Cadmium	ND (0.025) to 4.2	17 of 24	0.6
		Chromium	12.4 to 180.0	14 of 24	26.0
		Copper	40.4 to 739.0	24 of 24	16.0
		Manganese	206.0 to 1,200.0	17 of 24	460

MEDIUM	CATEGORY	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEDING SCGs/Background	SCG/ Bkgd. (ppb)
Surface Water (ppb)	Semivolatile Organic Compounds (SVOCs)	Bis(2-ethylhexyl) phthlate	ND (1) to 60	10 of 18	0.6
Surface Water (ppb)	Inorganics (Metals)	Aluminum	25 to 704 ppb	10 of 18	100
		Iron	321 to 1,060	17 of 18	300
Groundwater (ppb)	Volatile Organic Compounds (VOCs)	Benzene	ND (1) to 3.58	5 of 12	1.0
		Chlorobenzene	ND (1) to 15.5	2 of 12	5.0
		Xylenes (Total)	ND (1) to 6.4	1 of 12	5.0
Groundwater (ppb)	PCBs	Aroclor 1242	ND (1) to 3.2	1 of 12	0.09
		Aroclor 1254	ND (1) to 1.5	1 of 12	0.09
Groundwater (ppb)	Inorganics (Metals)	Arsenic	ND (3.5) to 51.3	3 of 27	25
		Barium	172 to 2,460	5 of 27	1,000
		Cadmium	ND (0.80) to 12	1 of 27	5
		Iron	3,750 to 229,000	27 of 27	300
		Lead	ND (2.9) to 2,430	10 of 27	25
		Manganese	195 to 5,540	24 of 27	300
Leachate (ppb)	Volatile Organic Compounds (VOCs)	Vinyl Chloride	ND (1) to 4.93	**	**
		1,2 Dichloroethene (Total)	ND (1) to 7.32	**	**
Leachate (ppb)	Pesticides/ PCBs	4,4'-DDD	ND (0.10) to 1.4	**	**
		4,4'-DDT	ND (0.10) to 1.1	**	**
Leachate (ppb)	Inorganics (Metals)	Barium	205 to 2,100	**	**
		Iron	456 to 89,000	**	**
		Manganese	212 to 2,020	**	**

* Values listed reflect the combined guidance for "Total PCBs" - Approximate Background

** No Promulgated Standards for Leachate, Presented for Informational Purposes Only

5.1.3: Extent of Contamination

Table 1 summarizes the extent of contamination for the contaminants of concern in soil, groundwater, leachate, surface water, biota, and sediment and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Waste

There is a considerable amount of refuse at the surface of the landfill. These wastes need to be appropriately covered to prevent exposure to humans and the wildlife. Drums and tanks are also present at the site. Some are empty, whereas others contain either waste or soil. Some drums have already been removed from this landfill.

The area west of the Hardfill Area is not part of the site. No known hazardous waste disposal occurred to the west of the site.

Soil

Fifteen surface soil samples at a depth of 0 to 2 inches were taken at the landfill, including a background sample, as shown on Figure 2. (Note: Figure 2 shows concentrations in parts per billion.) SVOCs concentrations in the landfill were consistently 10 to 20 times the concentrations of SVOCs in the background sample. All samples at the landfill included polycyclic aromatic hydrocarbons (PAHs), which are a group of SVOCs. PAHs are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil, gas, and garbage. The incinerator that operated here could have been a large contributor of the PAHs found at the landfill.

The benzo(a)anthracene concentrations ranged up to 53.0 parts per million (ppm) (the soil guidance value is 0.224 ppm). Also for the SVOCs, benzo(a)pyrene concentrations ranged up to 33.0 ppm (the guidance value of 0.061 ppm), and benzo(b)fluoranthene ranged up to 41.0 ppb (the guidance value is 1.1 ppm). The indeno(1,2,3-cd)pyrene concentrations ranged up to 20.0 ppm (the guidance value is 3.2 ppm). The dibenzo(a,h)anthracene concentrations ranged up to 1.4 ppm (the guidance value is 0.014 ppm). Dibenzofuran concentrations ranged up to 15.0 ppm (the guidance value is 6.2 ppm). The fluoranthene concentrations ranged up to 100.0 ppm (the guidance value is 50.0 ppm).

For metals, arsenic levels ranged up to 11.5 ppm (the guidance value of 7.5 ppm), cadmium concentrations ranged up to 4.8 ppm (the guidance value is 1.0 ppm), and copper concentrations ranged up to 2,600.0 ppm, (guidance value of 60.9 ppm). The lead concentrations ranged up to 504.0 ppm (the guidance value is 28.6 ppm). The mercury concentrations ranged up to 1.1 ppm (the guidance value is 0.1 ppm). The nickel concentrations ranged up to 378.0 ppm (the guidance value is 37.3 ppm).

Since these contaminants are present at the surface of the landfill, an exposure could result from direct contact with the SVOCs and metals. The subsurface soils exhibited similar contaminant concentrations of SVOCs and metals.

Sediments

Several VOCs were detected in the sediment samples of the Erie Canal and Mohawk River, but none were detected above the guidance values, as shown on Figure 3. (Note: Figure 3 shows concentrations in parts per billion.) Samples were taken near the banks of the water bodies, and not in the center of the canal or river. SVOCs were found in most of the samples, with results ranging from 1 to 11 times the site background. One of the contaminants of concern is benzo(a)pyrene, which was detected at concentrations of 4.0 ppm (the guidance value is 1.3 ppm). The total SVOC concentrations are lower in the canal than in the river, with total SVOC concentrations ranging from 2.9 ppm to 7.1 ppm in the canal and 4.4 ppm to 24.6 ppm in the river. The PCB concentrations in the canal range from non-detect (ND) to 0.084 ppm, and 0.073 ppm to 20.90 ppm in the river. The PCB concentrations are the highest along the southeast portion of the landfill, with total PCB values from 0.072 ppm to 20.90 ppm. The guidance value for PCBs in sediments is 1.0 ppm.

Metals contamination also exists in the sediments, with concentrations 1 to 3 times the site background. Arsenic, cadmium, and manganese values range up to 20.7 ppm, 4.2 ppm and 1,200.0 ppm, respectively. The guidance values for these metals are 6.0 ppm, 0.6 ppm, and 460.0 ppm, respectively. Chromium and copper values range up to 180.0 ppm and 739.0 ppm, respectively. The guidance values for these metals are 26.0 ppm and 16.0 ppm, respectively.

Groundwater

The groundwater results are summarized in Figure 4. Only three VOCs were found above groundwater standards: benzene, with concentrations from ND to 3.58 parts per billion (ppb), (the standard is 1 ppb), chlorobenzene concentrations ranged from ND to 15.5 ppb, (the standard is 5 ppb), and total xylenes concentrations from ND to 6.4 ppb, (the standard is 5 ppb).

Only two wells contained PCBs, where the values were 1 ppb and 3.2 ppb (the groundwater standard is 0.09 ppb). These wells were located on the southeastern side of the landfill, located within the half of the landfill with the purported hazardous waste disposal. This eastern side of the landfill has the significant impact to groundwater from the disposal of the hazardous wastes. No pesticides were detected in any of the wells.

Most of the wells exceeded the groundwater standards for iron, magnesium, manganese, and sodium. Arsenic concentrations ranged up to 51.3 ppb (the standard of 25 ppb). Barium concentrations ranged up to 2,460 ppb (the standard is 1,000 ppb). Cadmium concentrations ranged up to 12 ppb (the standard is 5 ppb). Iron concentrations ranged up to 229,000 ppb (the standard is 300 ppb). Lead concentrations ranged from ND to 2,430 ppb, (the standard is 25 ppb). Manganese concentrations ranged up to 5,540 ppb (the standard is 300 ppb).

Surface Water

The surface waters of the Erie Canal and the Mohawk River were sampled where they pass around the Utica City Dump, and the values are listed in Figure 5. Only two VOCs were detected in the samples, and none were above the water quality standards. Bis(2-ethylhexyl)phthlate was the only SVOC found in many samples, ranging up to 60 ppb (the standard is 0.6 ppb).

For metals, iron and aluminum exceeded the standards in all of the samples. Iron was detected from 321 ppb to 1060 ppb (the standard is 300 ppb). Aluminum was detected from 25 ppb to 704 ppb (the standard is 100 ppb).

Leachate

Six leachate samples were collected during the Remedial Investigation. VOCs were detected in two of the samples above groundwater standards. Vinyl chloride concentrations ranged up to 4.93 ppb (the groundwater standard is 2 ppb) and 1,2-dichloroethene (total) ranged up to 7.32 ppb (the groundwater standard is 5 ppb).

One of the samples also had SVOCs and pesticides above standards: 4,4'-DDD and 4,4'-DDT were 1.4 ppb and 1.1 ppb, respectively. All of the samples contained iron and magnesium above groundwater standards, concentrations ranged from 456 ppb to 89,000 ppb for iron (the groundwater standard is 300 ppb). Manganese concentrations up to 2,020 ppb, and barium concentrations ranged up to 2,100 ppb. There are no standards for leachate, however the reference to groundwater standards is made for comparison purposes.

Biota

A variety of biota were collected and analyzed during the Remedial Investigation, and the results are compiled in Tables 4-9 and 4-10 of the Remedial Investigation Report. The type of benthic organism sampled at each location depended on availability. Examples of biota sampled are carp, crayfish, suckers and mussels. PCBs bioaccumulate in the fatty tissue of benthic organisms and fish. The PCB concentrations in the fish were the highest in those caught along the banks of the Mohawk River near the southeastern part of the landfill. The maximum concentration in the fish were 5.6 ppm, with an average concentration of 2.7 ppm (the Food and Drug Administration tolerance level for fish is 2.0 ppm). This is also the location of the greatest PCB contamination in sediment.

Currently, there is a fish advisory in the portion of the Mohawk River between Oriskany and West Canada Creeks (Oneida and Herkimer Counties) where only the catch and release of carp is allowed, and the ingestion of no more than one largemouth bass or tiger muskellunge (one-half pound) per month is recommended for adults. Women of childbearing age, infants, and children under the age of 15 are advised to not eat any fish from this water body.

5.2: 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 completion of the RI/FS.

In 1997, due to a large number of arson incidents in the City of Utica and the need to dispose of the resultant building debris, the center part (approximately 10 acres) of the landfill was used to dispose

of the arson related demolition debris. This action had the additional purpose of providing more acceptable slopes in this section of the landfill and hence, was deemed to be an Interim Remedial Measure (IRM). This area is referred in Figure 1 as the Arson Area. An interim soil cover was placed on this area only. The landfill had a fairly flat topography, and this IRM helped improve the slope of the site for final grading and cover.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Section 5.1 of the RI report.

An exposure pathway is the manner by which an individual may come in contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Pathways which are known to or may exist at the site include:

- Dermal contact with contaminated soils, leachate seeps, sediment, and surface water. The surface water contamination is a result of contaminated sediment, groundwater and leachate seeps, and from runoff over contaminated soils on the landfill surface;
- Inhalation of the fugitive dust from contaminated surface soils;
- Ingestion of surface water and groundwater; and
- Ingestion of contaminated fish in the Mohawk River.

Short-term exposure pathways to on-site workers involved in remediation of the landfill are the same as the current exposure pathways. These exposures will be addressed with engineering controls and the use of personal protective equipment.

5.4: Summary of Environmental Impacts

This section summarizes the types of environmental exposures and ecological risks which may be presented by the site. The Fish and Wildlife Impact Assessment included in the RI presents a more detailed discussion of the potential impacts from the site to fish and wildlife resources. The following pathways for environmental exposure and/or ecological risks have been identified:

- Wildlife contact with contaminated soils, surface water, sediments, and leachate seeps at the landfill; and
- Fish and wildlife consumption of aquatic invertebrates in the Mohawk River.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to meet all standards, criteria and guidance (SCGs) and be protective of human health and the environment. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Eliminate, to the extent practicable, the hazard posed by exposed wastes and debris;
- Reduce, to the extent practicable, the hazard of direct contact with surface water, surface soils, sediment, and leachate seeps where contaminant criteria are exceeded;
- Eliminate, to the extent practicable, ingestion of surface water and groundwater affected by the site that does not attain NYSDOH Part 5 Drinking Water Standards;
- Eliminate, to the extent practicable, off-site migration of groundwater that does not attain NYSDEC Class GA Ambient Water Quality Standards;
- Eliminate, to the extent practicable, migration of contaminants into the Mohawk River or Erie Canal via erosion of contaminated soils, transport of suspended sediment, and flow of contaminated groundwater or surface waters;
- Eliminate, to the extent practicable, the exposure of humans, fish and wildlife to levels of PCBs in sediment above standards/guidance values; and
- Eliminate, to the extent practicable, exceedances of applicable environmental quality standards related to releases of contaminants to waters of the state.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost effective, comply with other statutory laws, and utilize permanent solutions, alternative technologies, or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Utica City Dump were identified, screened, and evaluated in the report entitled Feasibility

Study Report, Utica City Dump, September 2000. This report is available at the document repositories.

A summary of the detailed analysis follows. As presented below, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy, procure contracts for design and construction, or to negotiate with responsible parties for implementation of the remedy.

7.1: Description of Remedial Alternatives

The potential remedies are intended to address the contaminated surface soils, groundwater, leachate, surface water, and sediment at the site. The following alternatives consider No Further Action, Institutional Controls, and two generations of possible landfill caps. Numerous subalternatives are also provided to address leachate or contaminated sediment controls.

Alternative 1: No Further Action with Continued Monitoring

Only continued monitoring would be required to monitor the impacts of the site. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

The no further action alternative includes periodic monitoring of the site to measure contaminant concentrations over time. This alternative relies on the natural attenuation of contaminants that may occur over time. It does not rely on any remedial action, but will be used as a baseline to which other alternatives can be compared. Costs of monitoring were developed using an estimate based on monitoring that was performed during the RI, including annual sampling of groundwater, surface water, and sediment.

Present Worth:	*$ 549,000*
Capital Cost:	*$ 0*
Annual O&M:	*$ 36,000*
Time to Implement	*Less than 6 months*

Alternative 2: Institutional and Physical Controls

Institutional controls include actions such as deed restrictions to prevent site groundwater use and site development, and physical controls such as fencing, that prevent human exposure to contaminants by regulation of the area's use. Although institutional controls represent a separate alternative, they could also be combined with any of the other alternatives described in this section to provide protection of human health. Alternatives 3 - 4 include the above institutional and

engineering controls. This alternative limits the exposure pathways by restricting access to the site, thus reducing the possibility of direct contact with surface soil, leachate seeps, exposed waste, or contaminated runoff. The majority of the additional cost of this alternative, compared to Alternative 1, is the capital cost associated with the fence required to surround the entire site.

Present Worth:	*$ 1,661,000*
Capital Cost:	*$ 576,000*
Annual O&M:	*$ 71,000*
Time to Implement	*6 months - 1 year*

Alternative 3: Partial Cap (Under 1972 NYS Regulations)

The partial cap alternative addresses the remaining portion of the landfill purported to have received hazardous wastes during the period of operation. The Hardfill Area was previously closed in 1997. Only an interim cover was placed on the Arson Area in 1998. Alternative 3 would include the following measures:

- Capping of the hazardous waste portion of the site (52 acres) excluding the arson area.
- Limited waste excavation and consolidation by placement of waste under the cap.
- Collection of leachate seeps.
- Remaining demolition and disposal of onsite structures (incinerator debris and stack, pump house and sewer line, trailers) to allow for capping of the landfill.
- Limited fencing.
- Deed restrictions.
- Continued monitoring.

The type of cap and cover system proposed above as part of this alternative would meet NYCRR requirements in effect when the facility ceased normal operation in 1972. The landfill (excluding the arson area) would be covered with two feet of suitable clean cover material (no defined impermeability requirements) over the area east of the Hardfill Area, where, according to the City of Utica, hazardous waste was disposed. This would include six inches of topsoil that would be placed and seeded to provide a vegetative cover.

Exposure to contaminated leachate would be reduced by covering the waste materials (which would reduce the production of leachate), by covering or overexcavating leachate seeps, and by collecting and treating contaminated leachate. Fencing, deed restrictions, institutional controls and monitoring activities would help meet ARARs for the site.

Site structures, including the old incinerator facility and smoke stack, pump house, contractor trailers, and abandoned sewer line and manholes would be demolished and debris would be placed under the cap. Most of these items are not structurally sound, and could provide a contaminant pathway. Alternative 3 would provide for disposal of exposed drums, tanks and other debris.

Under Alternative 3, the area west of the Hardfill Area would not be covered. Historically, according to the City of Utica, only the east of the Hardfill Area received hazardous waste for disposal. Alternative 3 would provide for operation and maintenance of the cover, monitoring of the institutional controls, including a fence, to control site access.

Present Worth:	*$4,824,000*
Capital Cost:	*$3,795,000*
Annual O&M:	*$ 66,000*
Time to Implement	*1 to 2 years*

Alternatives 4: Full Landfill Cap

Installation of a cap and cover system is commonly performed during closure of municipal landfill sites. Requirements for landfill closure and the installation of a cover are regulated under New York State solid waste regulations, currently found in 6 NYCRR Part 360. When the Utica City Dump ceased normal operation in 1972, proper closure requirements were not met. Under Alternative 4a the site, including the arson area, would be closed according to the requirements of NYCRR as they existed in 1972 when the facility stopped accepting waste. This cover would be similar to the 2 foot soil cover over the Hardfill Area, which was completed in 1997 and approved by NYSDEC. Alternatives 4b and 4c would close the site according to the current (1999) 6 NYCRR Part 360 landfill requirements using a geomembrane cap (Alternative 4b) or a clay cap (Alternative 4c). These alternatives also provide for operation and maintenance of the landfill caps, monitoring of the institutional and engineering controls.

Some waste consolidation may be necessary to reduce unacceptable slopes (ie. near the embayment on the southern side of the landfill) as well as providing grading material for other parts of the landfill. Before the design phase, an economic evaluation for removing all of the waste out of the 100 year floodplain versus capping those areas will be performed. Some waste consolidation may also be necessary to facilitate placement of the leachate collection system (Subalternatives 5 a, b, or c) at the downgradient toe of the landfill.

Alternative 4a: Full Landfill Cap (Under 1972 NYS Regulations)

In 1972, landfill closure requirements called for a final compacted cover of at least two feet of suitable cover material. Control of the area through use of signs and fencing is also required in these regulations. However, no other requirements for cover system specifications are included.

This alternative would provide two feet of clean soil cover over the site. This would include the Arson Area, but would not include the Hardfill Area, as shown in Figure 6. Also, the proposed fence would completely surround the site. Implementing this alternative would ensure that there are no hazards posed by exposed wastes or by areas where the existing soil cover may be inadequate. Alternative 4a also provides for institutional controls, including a fence, to control site access.

Remaining demolition and disposal of onsite structures (incinerator debris and stack, pump house and sewer line, trailers) would be necessary to allow for capping of the landfill.

Present Worth:	*$ 5,598,000*
Capital Cost:	*$ 4,335,000*
Annual O&M:	*$ 82,000*
Time to Implement	*1 to 2 years*

Alternative 4b: Current NYS Part 360, RCRA and Modified Composite Layer Cap (Geomembrane Cap)

The Part 360 regulations have evolved since 1972. Technological advancements in the design of cover systems have led to increased effectiveness of the covers and their ability to limit exposure, prevent transport of waste, and reduce landfill leachate. The current NYCRR Part 360 requirements for a municipal landfill cover include a multi-layered system involving several different materials.

Waste materials would be graded and clean fill material would be imported to bring the landfill surface to the grade necessary for placement of the cap and cover system. Directly above the graded landfill surface, a non-woven geotextile would be placed. Next a layer of granular material 12 inches thick to vent gases would be placed on top of the geotextile. Above this, a 60-mil. HDPE geomembrane would be placed. This layer is then overlain by a geonet/geotextile composite layer for drainage. Barrier protection fill of 18" thickness would be placed above this, with a final layer of 6" of topsoil, mulched or seeded, as the topmost layer.

Cover would be provided over the entire site, including the Hardfill and Arson Areas, since these areas would contribute to leachate generation beneath the Part 360 cap if they were not included.

Present Worth:	*$ 9,885,000*
Capital Cost:	*$ 8,535,000*
Annual O&M:	*$ 87,000*
Time to Implement	*1 to 2 years*

Alternative 4c: Current NYS Part 360, RCRA and Modified Composite Layer Cap (18-Inch Clay Cap)

Alternative 4c is similar to Alternative 4b except that an 18-inch clay cap would be used instead of the 60-mil HDPE geomembrane. A nonwoven geotextile is proposed to separate the clay cap and the granular gas-venting layer.

Costs of this alternative depend on local availability of a suitable source of clay soil. Cost of clay depends on the haul distance. Clay typically becomes less cost effective than a geomembrane liner

with haul distances of greater than 10 miles. This estimate assumes a haul distance of less than 10 miles.

Present Worth:	*$ 10,354,000*
Capital Cost:	*$ 8,994,000*
Annual O&M:	*$ 88,500*
Time to Implement	*1 to 2 years*

SUBALTERNATIVES:

Discussed in the following paragraphs are actions to address special site problems such as leachate control and treatment and sediment removals. These enhancements can be incorporated into any of the other alternatives.

Subalternative 5: Leachate Collection and Treatment

The proposed leachate collection system includes installation of a collection trench along the northeast and east side of the site where contaminated leachate seeps have been observed intermittently during wet seasons of the year.

Hydrologic Evaluation of Landfill Performance (HELP) computer models predict the percolation of 10.3 million gallons per year with a 2 foot soil cap. A current Part 360 cap would produce 0.30 million gallons per year, due to the lower permeability of the 360 cap.

To capture the leachate on the northeast and east sides of the Utica City Dump, a passive collection trench would be used. The trench would consist of an excavated drainage trench with a slotted drainpipe installed in the bottom of the trench and gravel backfill above the pipe. The trench would be lined on the down gradient side with an impermeable geomembrane, to help separate contaminated leachate seeps from groundwater, surface water and wetlands. Figure 7 shows the proposed leachate collection trench location along the east side of the Utica City Dump.

Subalternative 5a: Collect Leachate and Discharge to the Offsite Publicly Owned Treatment Works (POTW)

This subalternative would involve collecting leachate in a leachate collection trench that connects by gravity sewer line to the municipal sewer line that crosses the site (see Figure 6). The municipal sewer line flows to the offsite Oneida County Sewer District Publicly Owned Treatment Works (POTW) that is located approximately 0.5 miles from the site. In addition to the line to the sewer, collection sumps may be necessary.

Present Worth:	*$ 1,006,000*
Capital Cost:	*$ 301,000*
Annual O&M:	*$ 46,000*
Time to Implement	*1 to 2 years*

Subalternative 5b: Store leachate in onsite tanks and haul to the POTW

This subalternative is included in the event that discharge to the offsite POTW is not technically feasible or the pipeline does not have adequate capacity. This subalternative would involve constructing a pump station and storage tanks for storing leachate, instead of connecting to the municipal system per Subalternative 5a.

Present Worth:	*$ 4,649,000*
Capital Cost:	*$ 443,000*
Annual O&M:	*$ 274,000*
Time to Implement	*1 to 2 years*

Subalternative 5c: Wetland Enhancement (Constructed Wetland) to Treat Leachate

Constructed wetlands are designed to mimic processes found in natural wetlands. As water flows through the wetland, biological and chemical processes destroy organic constituents, and demobilize metals and pathogens in the water. Gravity flow through the trench to the constructed wetlands for treatment would be preferred to avoid the need for operating and maintaining a pumping station. However, due to the relatively flat slope of the site (less than 1%), flow could be directed via pumping to the wetland system.

The complexity of constructed wetlands can range from the creation of a marsh in a natural setting where one did not permanently exist before, to intensive construction involving earth moving, grading, impermeable barriers or erection of containers such as tanks or trenches. The vegetation that is introduced or emerges from these constructed systems will generally be similar to that found in the natural wetlands." (USEPA 1988).

Constructed wetlands can be used to treat contaminated leachate and runoff from the site. The objective of the constructed wetland would be to reduce the concentration of volatile organic compounds, semi-volatile compounds, and metals in the collected water to concentrations that would meet all SCGs.

The design of a constructed wetland is based on site conditions, site hydrology, and contaminant loading and concentrations. Several site conditions need to be considered when designing a constructed wetland system. These include soil depth and permeability, water table depth and seasonal variations, surface topography, size and shape of property, surface water flow, and climatic

conditions. The location of the approximately 4 acre wetland would be in the northeast corner of the site, located near some of the leachate seeps.

A monitoring program is required to assess the effectiveness of the constructed wetland for reducing concentrations of contaminants. The program would consist of periodic monitoring of flow rates, water quality, weather conditions, and vegetation growth.

Present Worth:	*$ 2,587,000*
Capital Cost:	*$ 875,000*
Annual O&M:	*$ 111,000*
Time to Implement	*1 to 2 years*

Subalternative 6: Remove Sediment

The sediment removal action would include excavation of sediments along the northern shore of the Mohawk River on the southeast corner of the landfill. This action would address the PCB contamination along the southeastern portion of the landfill bordered by the Mohawk River. This subalternative could be implemented alone or in combination with any of the remedial action alternatives discussed above.

Figure 8 shows the location of the sediment removal, which would extend a total distance of approximately 3,000 feet. The sediment would be removed to a depth of approximately one-foot using a backhoe based on shore. The action area would extend to approximately 30 feet from shore, resulting in approximately 3,400 cubic yards of soil to be excavated. Silt curtains placed in the water beyond the limit of work would be utilized to minimize the migration of disturbed sediments. Confirmatory sampling would be necessary to ensure cleanup to background levels. Exact details of removal action quantities and locations would be determined during the remedial design phase.

Spoils from the removal process would be tested for PCBs for waste characterization. Sediments with PCBs greater than 50 ppm would be disposed offsite at a TSCA-approved facility. Sediments with concentrations of PCBs less than 50 ppm would be mixed with an additive for dewatering, transported to the landfill, spread, and placed under the cap. Based on previous sediment sampling results, no off-site disposal is anticipated. Excavated sediments would be staged and mixed to promote drying before transport off-site or to the landfill for final spreading. The excavated areas would be backfilled with clean soils.

Present Worth:	*$ 414,000*
Capital Cost:	*$ 414,000*
Annual O&M:	*$ 0*
Time to Implement	*6 months - 1 year*

7.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each of the criteria, a brief description is provided, followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is included in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs).
Compliance with SCGs addresses whether or not a remedy would meet applicable environmental laws, regulations, standards, and guidance.

The alternatives focus on waste material isolation and containment. As such, several constituents of concern exceed the standards, criteria and guidance. The No Further Action and Institutional Controls alternatives would not meet requirements for landfill closure. However, the potential for human exposure to soil contaminants and exposed wastes would be reduced by implementing the institutional controls alternative.

Alternative 3 and 4a would provide a 2-foot soil cover over the portion of the site where exposed waste materials are prevalent, where contaminated leachate seeps exist, and where more significant impact to groundwater has occurred. This would meet the landfill closure requirements of 1972, when the facility ceased normal operation. Alternatives 4b and 4c would meet the current landfill closure requirements, which consist of a multilayer cap.

Subalternatives 5a-5c are subsets of closure alternatives that deal only with leachate collection and treatment schemes. Subalternatives 5a-5c provide collection and treatment of leachate seeps, and would comply with SCGs for groundwater.

Subalternative 6 involves removal of contaminated sediments from the Mohawk River, which would contribute to compliance with surface water and sediment SCGs.

2. Protection of Human Health and the Environment.
This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Under each remedial alternative, except Alternatives 1 and 2, there would be little potential for human exposure to contaminants via air, except for fugitive dust during construction. This would be controlled through applied engineering controls. Human exposure to hazards posed by exposed waste material, contaminated groundwater, surface water, and soil would be a concern under the no

further action and institutional controls alternatives. Based on RI sampling results, surface soil contaminants exceed cleanup guidelines at several locations across the site, and leachate seeps at the surface pose a continued health risk via direct contact. Direct exposure via contact with exposed waste would be reduced under Alternatives 3 through 4c. Current landfill closure requirements are more protective of human health and the environment than the 1972 closure standard, because waste materials would be better contained and infiltration and resultant leachate generation would be minimized.

Exposure to contaminated leachate would be further reduced under Subalternatives 5a-5c.

The removal of sediments and replacement with clean soils, under Subalternative 6, would result in an increased protection of aquatic life and the environment.

During any alternative's implementation, hazards to human health would be posed by exposed waste, leachate, and sediment. These hazards have existed since 1972, and fencing has provided a partial access restriction during that time. Public access controls and good engineering practices during construction would limit risk to public. Short-term risks would also be posed to animals and waterfowl through exposure to hazardous substances in soil and leachate during construction. The long-term benefits of implementing the remedies would outweigh this short-term risk.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness.

The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Alternatives 1 and 2 would not have the short-term risk of community or habitat disruption. Alternatives 3, 4a, 4b, and 4c, along with Subalternatives 5a, 5b, 5c, and 6 would involve some short-term risks to the community. Implementation of each alternative (except the No Further Action alternative) would involve short-term risks to human health and the environment, as identified in the following paragraphs. However, the long-term benefits of the remedial actions would outweigh the short-term risks. In addition, actions can be taken to mitigate the short-term risks.

These risks result from trucking activities associated with construction. This trucking could result in fugitive dust generation, and increased traffic through the community. However, engineering controls could be applied to reduce the production of dust, and to reduce traffic hazards. These short-term risks would be outweighed by the long-term benefit of implementing any of the landfill closure, leachate treatment, or sediment removal alternatives (Alternatives 3-4 and Subalternatives 5-6).

Installation of the cap and cover system as part of Alternatives 3 and 4 a-c would require substantial clearing of trees and vegetation across the site, which would temporarily disrupt animal habitat during the construction. Subalternative 6 would also disrupt habitat during construction.

Alternatives 1 and 2 could be implemented within one year. The time required to implement Alternatives 3 and 4a-c and Subalternatives 5-6 would be less than 2 years.

4. Long-term Effectiveness and Permanence.
This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness can be measured by examining the adequacy of each alternative. Alternative 1 would be inadequate for meeting remedial action goals, and has no long term effectiveness. Alternative 2, institutional controls, would help to reduce the potential for human contact with contaminants. It would not be adequate for reducing wildlife exposure to contaminated soil and leachate. Alternatives 3, 4a, 4b, and 4c would be adequate for reducing human and wildlife exposure to waste, and for providing additional cover of non-hazardous wastes across the site. Subalternatives 5a, 5b, and 5c would be adequate for reducing the potential for human and wildlife exposure to contaminated leachate.

Reliability is another characteristic that can measure the long-term effectiveness of a remedial action. A reliable alternative performs its function with reduced long-term oversight and maintenance. Long-term operation and maintenance (for thirty years or more, with 3-5 year reviews) is required for all alternatives.

Physical controls (such as fencing) and institutional controls could reliably perform their function of reducing the potential for human contact, but would need annual repairs and inspections. Alternative 3, partial cap, and Alternative 4a, capping the entire site, would be reliable, provided that routine maintenance and inspections are performed. The capped portions would need to be checked for erosion and subsidence. Fencing would need to be inspected for holes or breeches. Mowing would be required at least two times per year and seeding would be required to maintain vegetation cover for any bare areas.

Alternatives 4b and 4c would be the most reliable. Proper design of the landfill cap and cover systems of Alternatives 4b and 4c is critical for their reliability. Design must include adequate drainage to avoid erosion and slope failure. The various layers of the multilayer cap must also demonstrate structural stability.

Long-term monitoring at the site would be required for all alternatives. Long-term operation and maintenance activities would be more involved for the cap and cover systems, Alternatives 4b, and

4c, but operation and maintenance would also be required for Alternatives 2, 3 & 4a and Subalternatives 5a-5c.

5. Reduction of Toxicity, Mobility or Volume.
Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Because waste would be left in place, volume and toxicity of wastes are not reduced under Alternatives 1, 2, 3, and 4a, 4b, and 4c. Mobility of the hazardous waste would be significantly reduced due to reduced surface water infiltration under Alternatives 3 and 4a, and even further reduced under Alternatives 4b and 4c due to decreased permeability of the cap. Leachate collection and treatment, proposed under Subalternatives 5a-5c, would reduce toxicity, mobility, and volume through use of various leachate collection and treatment technologies.

Subalternative 6 would reduce the mobility of contaminants by relocating contaminated sediments to the landfill and covering them. By removing the sediments, contaminant transfer to surface water and subsequent migration would be reduced.

6. Implementability.
The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

Ease of construction is a factor which sets the various alternatives apart. Alternative 1, no further action, would involve no construction, and by definition, would be easy to implement. The institutional controls alternative would involve the construction of a fence restricting access to the site. This would also be considered easy to construct.

The sediment removal alternative (Subalternative 6) would involve limited clearing for construction of access points to the Mohawk River and for the transportation of wastes to the center of the dump. The landfill closure alternatives (3, 4a, 4b, and 4c) would involve construction activities including clearing the land prior to construction. The likelihood of technical problems and schedule delays increases with construction complexity. The complex landfill designs of alternatives 4b and 4c would therefore be more difficult to implement than the other alternatives.

All alternatives are considered administratively feasible. However, the wetlands treatment subalternative (5c) would require more effort to administer relative to the other alternatives. The wetlands treatment implementation would require coordination with the Army Corp of Engineers.

The availability of services, materials (such as clay for the landfill cap), and equipment may also affect the implementability of each alternative. Basic earthmoving and clearing required by implementation of the capping alternatives would be readily available within the local market.

Alternatives 3, 4a, 4b, 4c and 5c would be more difficult to construct, although the engineering is well known and easily applied, and are more effective than Alternatives 1 and 2. Subalternatives 5a and 5b would not be difficult to construct, would be administratively simple, and would incorporate reliable technologies that would meet remedial goals.

7. Cost.

Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 2. Estimated material quantities, estimated unit costs and annual operation, maintenance and monitoring costs have been revised to reflect cost saving opportunities identified since the release of the PRAP.

The least costly alternative is Alternative 1, No Further Action with Continued Monitoring, followed by Alternative 2, Institutional and Physical Controls with estimated present worth costs of $550,000 and $1.67 million, respectively. Alternative 3, Partial 1972 NYCRR Cap, and Alternative 4a, Full 1972 NYCRR Cap, have an estimated total present worth of $4.8 million and $5.6 million, respectively. The most costly alternatives are Alternatives 4b - Geomembrane Cap and Alternative 4c - Clay Cap, with estimated total present worth of $9.88 million and $10.35 million, respectively. Subalternatives 5a, 5b, and 5c have costs of $1.0 million, $4.6 million, and $2.59 million, respectively. Subalternative 6 is $414,000. Capital and operating costs may be reduced significantly with consideration of several factors discussed in the Cost Sensitivity Analysis presented in Table 10-2 in the Feasibility Study.

Table 2
Remedial Alternative Costs

Remedial Action	Capital Cost	Annual O&M	Total Present Worth
1. No Further Action with Continued Monitoring	$0	$36,000	$549,000
2. Institutional Controls	$576,000	$71,000	$1,661,000
3. Partial 1972 NYCRR Cap	$3,795,000	$66,000	$4,824,000
4a. Full Landfill Cap (under 1972 NYS Regulations)	$4,335,000	$82,000	$5,598,000
4b. Current NYS Part 360 Cap (with Geomembrane)	$8,535,000	$87,000	$9,885,000
4c. Current NYS Part 360 Cap (with 18-Inch Clay)	$8,994,000	$88,500	$10,354,000
5a. Leachate Discharge to Offsite Publicly Owned Treatment Works (POTW)	$301,000	$46,000	$1,006,000
5b. Store leachate in onsite tanks and haul to the POTW	$443,000	$274,000	$4,649,000
5c. Wetland Enhancement (Constructed Wetland) to Treat Leachate	$875,000	$111,000	$2,587,000
6. Remove Sediment	$414,000	$0	$414,000

8. Community Acceptance.
This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. The "Responsiveness Summary" included as Appendix A presents the public comments received and the manner in which the Department will address the concerns raised.

The City of Utica and the Oneida County Department of Water Quality and Water Pollution Control each wrote a letter commenting on the proposed remedy. Their comments discussed concerns with

the treatment of collected leachate, possible use of construction and demolition debris as an alternative grading material for the landfill cover, and funding of the remedial project. These comments were carefully reviewed and considered by the NYSDEC. The comments, after review by the Department, warranted a significant change in the elements of the remedial decision to change the remedy to a current Part 360 landfill cap and the sediment removal in the Mohawk River.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the results of the RI/FS and comments received during the PRAP comment period, the evaluation presented in Section 7 and comments received on the PRAP, the NYSDEC is selecting Alternative 4b, NYS Part 360 Cap, along with Subalternative 6, Sediment Removal, as the remedies for this site.

The landfill cap will meet the current requirements for landfill closure. Exposed waste, including drum carcasses and tank carcasses, that exist outside of the 52 acre area to be covered will be excavated and placed in the area to be covered. Several structures on site will be demolished and placed under the cap. Areas of erosion will be repaired and maintained.

To limit site access, fencing will be installed along Leland Avenue and will extend 500 feet along the northern and southern borders of the site. Institutional controls will prevent on-site groundwater use and development of the site. Continued periodic monitoring will be necessary to evaluate the success of the remedy.

None of the alternatives will reduce all health risks to the extent that unrestricted use of the site will be feasible after remediation. In addition, although wastes have been in place for several decades, the site will not be appropriate for providing sound structural foundation for buildings or other structures due to the probability of settlement as wastes continue to degrade.

This selected remedy is preferred due to the unacceptable presence of exposed waste, and will result in a significant reduction in rainfall percolation into the waste mass. Alternative 1, No Further Action, and Alternative 2, Institutional Controls, will not provide adequate protection for hazards associated with exposed waste. Alternative 4b, however, will provide cover over the site where exposed wastes are prevalent, and hazardous wastes were historically disposed. This will remove the pathway of human and wildlife exposure via contaminated surface soil.

Current regulations for landfill closure require multi-layer cap and cover systems as outlined in Alternatives 4b, Geomembrane, and 4c, Clay Cap. This selected action will be reliable, fairly easy to implement, and will be protective of human health and the environment over the short-term and long-term. Providing an impermeable layer with proper grading over the site will reduce the hazard posed by exposed waste materials in the area, and will reduce infiltration and subsequent leachate production, thus reducing mobility of contaminants and impacts on groundwater. Alternative 4a will not provide the same level of leachate protection. The higher cost for Alternative 4b as opposed to

Alternative 4a is due to the more protective cap, but the benefits from this cap are warranted. The total present worth are estimated to be at least $10.3 million for Alternatives 4b and 6 versus $7.1 million for the combinations of Alternative 4a, 5a and 6. The increased cost of the cap is moderately offset by the removal of the leachate collection and treatment from the remedial plan. This cost difference would be even smaller if the leachate were to be treated by an on-site waste water treatment plant. This total present worth cost to handle leachate is estimated to be $1.6 million. Since the impermeable cap will prevent the production of a significant amount of leachate, as compared to a landfill with a soil cover, leachate collection and treatment is not included in this remedy.

Based on the preceding discussions, Alternative 4b, 1999 NYS Part 360 Cap, will provide effective and reliable protection for human health and the environment, and will be cost effective.

Implementation of Subalternative 6 in combination with Alternative 4b will achieve reduction in the volume of contamination found in sediments of the Mohawk River. The amount of leachate and contaminated groundwater entering the river will be greatly decreased by the installation of an impermeable landfill cap since precipitation will not infiltrate into the landfill and become contaminated. This reduction in contaminated water will reduce exposure of fish and wildlife to contaminants on the river banks and bottom. Shore-based removal of sediment hot spots will be a permanent remedy that is reliable, relatively easy to implement, and cost effective.

The estimated present worth cost to implement the remedies is $10,300,000. The cost to construct the remedy is estimated to be $8,950,000 and the estimated average operation and maintenance cost for 30 years is $87,000 per year. The selected remedy is Alternative 4b in both the PRAP and ROD. Estimated material quantities, estimated unit costs and annual operation, maintenance and monitoring costs have been revised to reflect cost saving opportunities identified since the release of the PRAP.

The elements of the selected remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS will be resolved.

2. Landfill closure (52 acres east of the Hardfill Area) according to the 1999 NYS Part 360 Regulations, to prevent exposure to surface soils and reduce the generation of landfill leachate.

3. Solid waste excavation and consolidation by placement of waste under the cap, to limit exposure to waste. Any consequential amount of hazardous waste found will be removed off-site for the disposal at a permitted facility.

4. Demolition and disposal of the onsite incinerator and surrounding structure.

5. Fencing along Leland Ave., to prevent trespass.

6. An institutional control will be imposed, in such form as the NYSDEC may approve, that will prevent disturbance to the landfill cap and prevent the use of the untreated groundwater as a drinking water source. The institutional control will be imposed in the form of existing use and development restrictions to prevent the use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the New York State Department of Health. The institutional control will also be imposed to prevent disturbance of the cap, so that the constructed cap would stay in place and prevent the infiltration of precipitation into the landfill.

   The property owner will complete and submit to the NYSDEC an annual certification until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the institutional controls and engineering controls put in place, pursuant to the Record of Decision, are still in place, have not been altered, and are still effective.

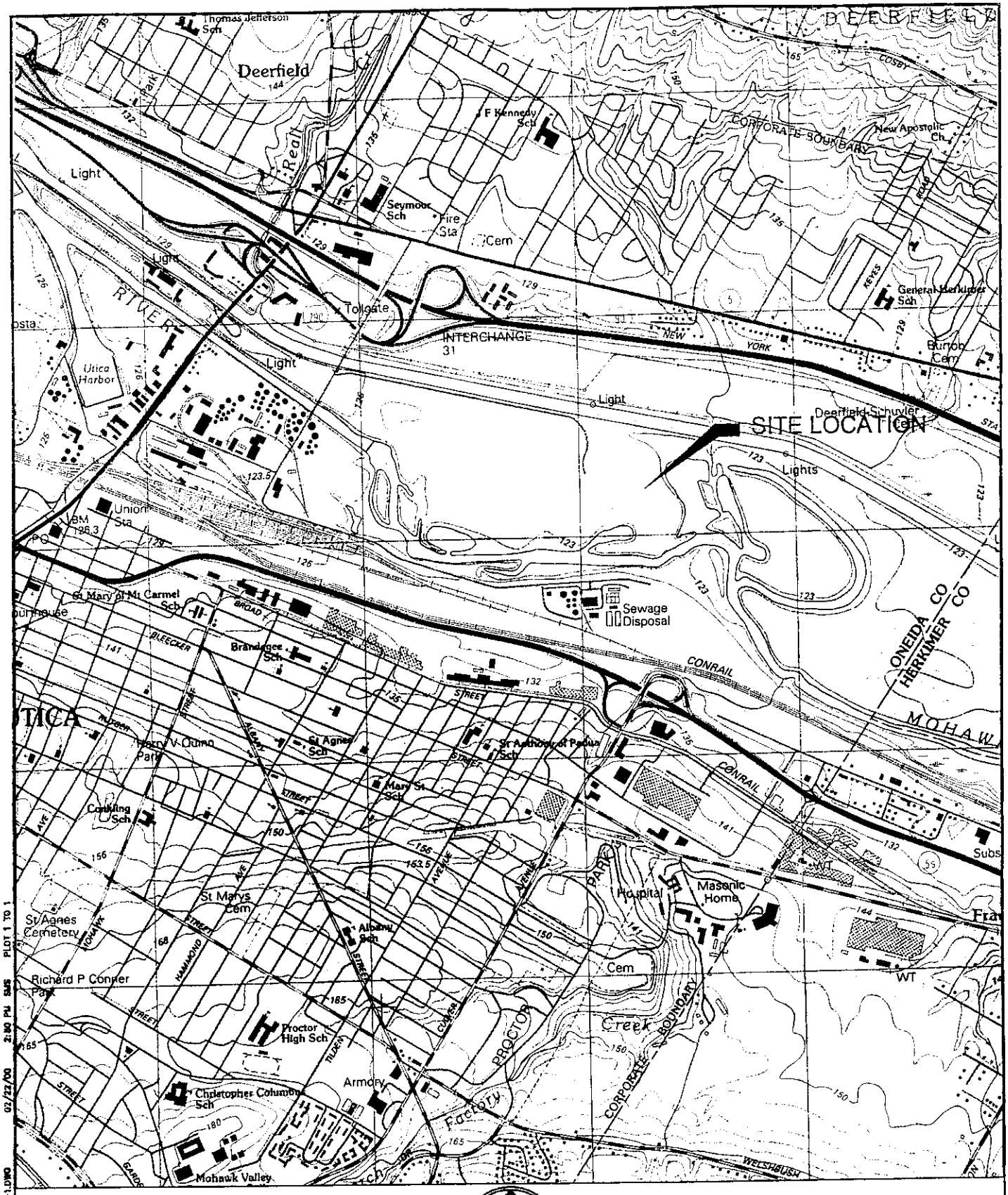
7. Sediment removal (with replacement of clean fill) along the eastern banks of the landfill (includes submerged portion of banks), to prevent the exposure of fish and wildlife to levels of PCBs and metals above standards/guidance values and background.

8. Monitoring, to evaluate the remedial actions. Since the remedy will result in untreated hazardous waste remaining at the site, a long-term monitoring program will be instituted. Monitoring locations will be selected according to previous sampling results, the grade and topography of the land, and to address particular areas of concern. The purpose of monitoring will be to evaluate leachate/groundwater quality over time and to assess the degree to which the remedial actions were meeting the established remedial goals. In addition to the environmental monitoring, annual monitoring of the landfill cap will be necessary to check that the waste is constantly covered. Any repairs to the damaged portions of the cap should be performed as soon as possible. This program will allow the effectiveness of the landfill cap to be monitored and will be a component of the operation and maintenance for the site. Long-term operation and maintenance (for thirty years or more, with 3-5 year reviews) will be required.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation/feasibility study process, a number of Citizen Participation activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.
- A Fact Sheet announcing the Public Meeting, and describing the proposed remedy, was mailed to everyone on the site mailing list in January 2002.
- A Public Meeting was held on February 21, 2002 to discuss the findings of the Remedial Investigation, results of the Feasibility Study, and the details of the proposed remedy. Comments and questions from the public were answered by NYSDEC staff at this meeting, and included in the Responsiveness Summary.
- In March 2003, a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the PRAP.



GRAPHIC SCALE

1000 0 500 1000 2000 4000

(IN FEET)

1 inch = 2000ft.

MAP SOURCE: USGS 7.5 MINUTE SERIES QUADRANGLE, 1983.

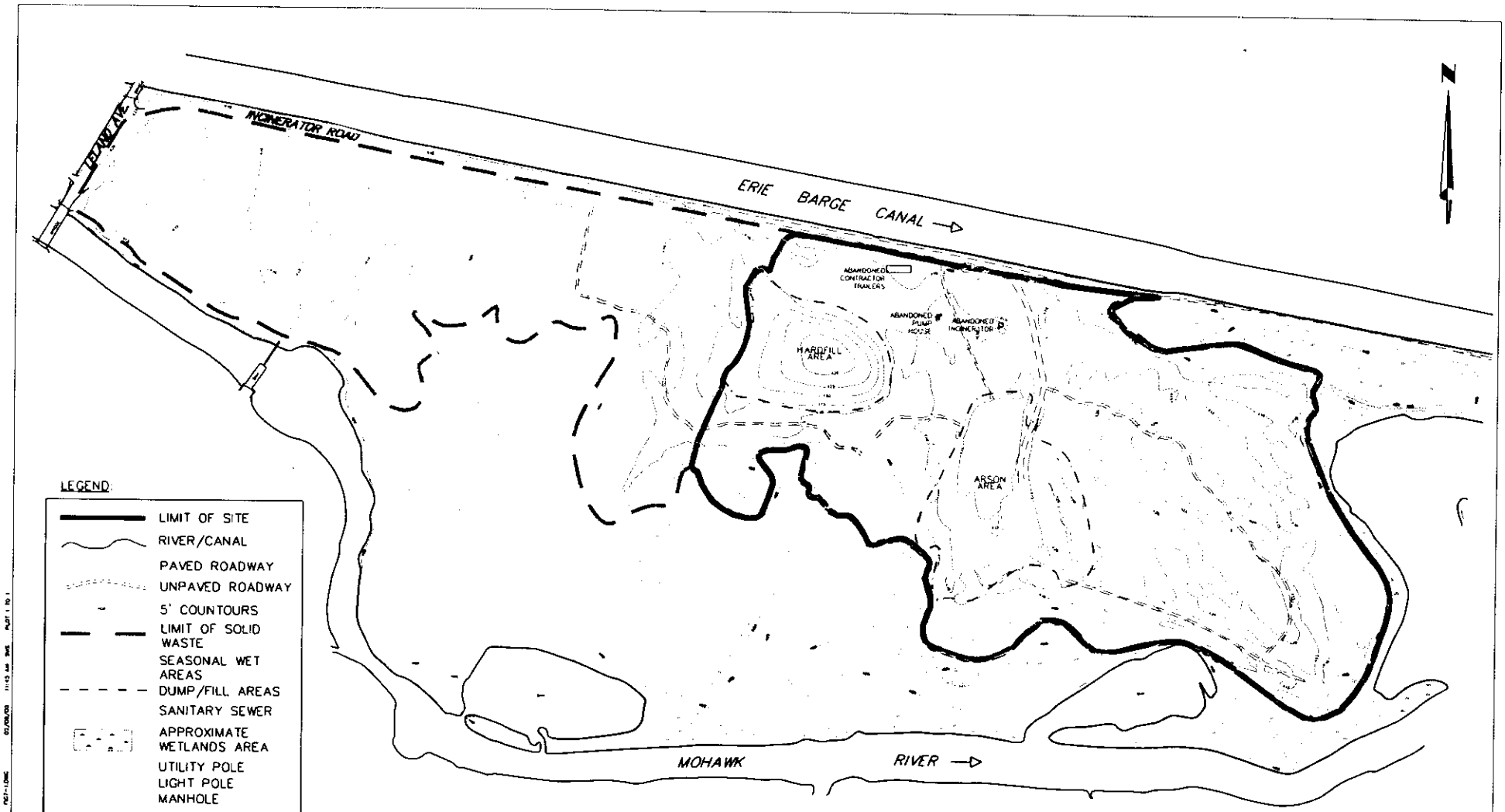
LMS Lawler, Matusky & Skelly Engineers, LLP
Environmental Science & Engineering Consultants

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

LOCATION MAP

UTICA CITY DUMP

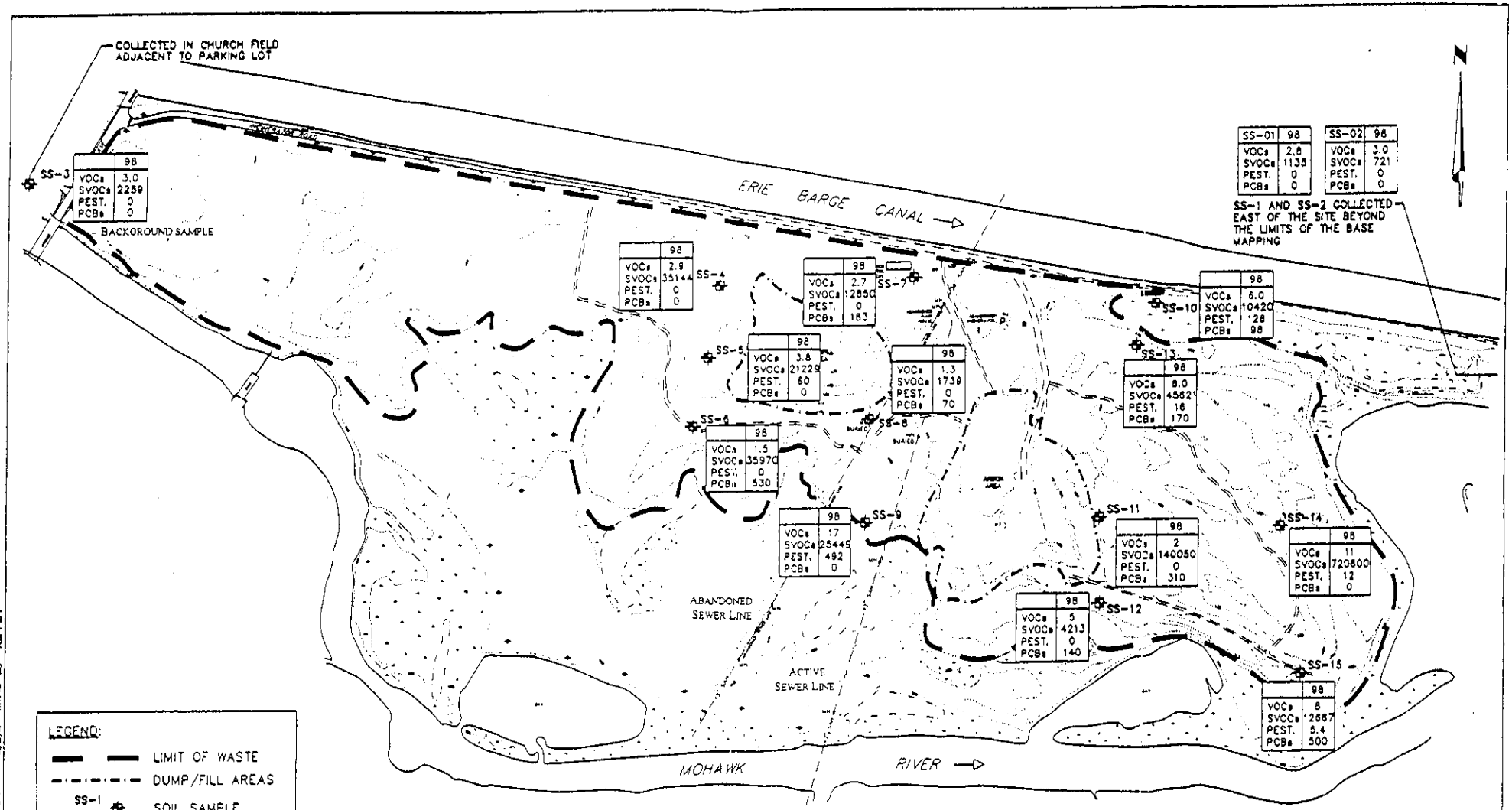
E:\0832\DRAWINGS\REMEDIAL INVESTIGATION\ FIG1-1.DWG 02/22/00 2:50 PM SAS PLOT 1 TO 1



LMS Lowler, Malusky & Skelly Engineers, LLP
Environmental Science & Engineering Consultants

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

FIGURE 1
EXISTING CONDITIONS
UTICA CITY DUMP RI/FS



NOTES:

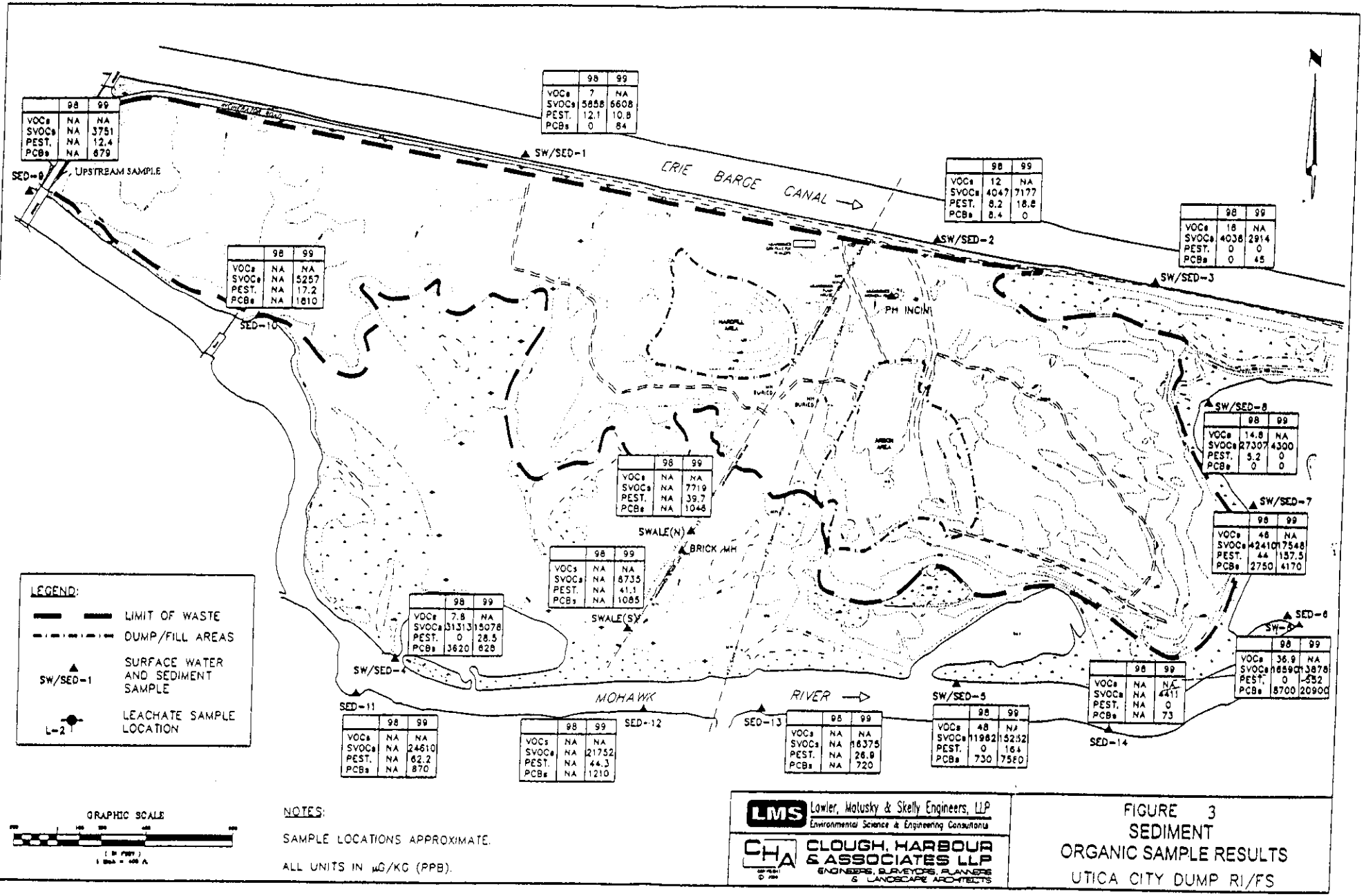
ALL UNITS IN µG/KG (PPB)

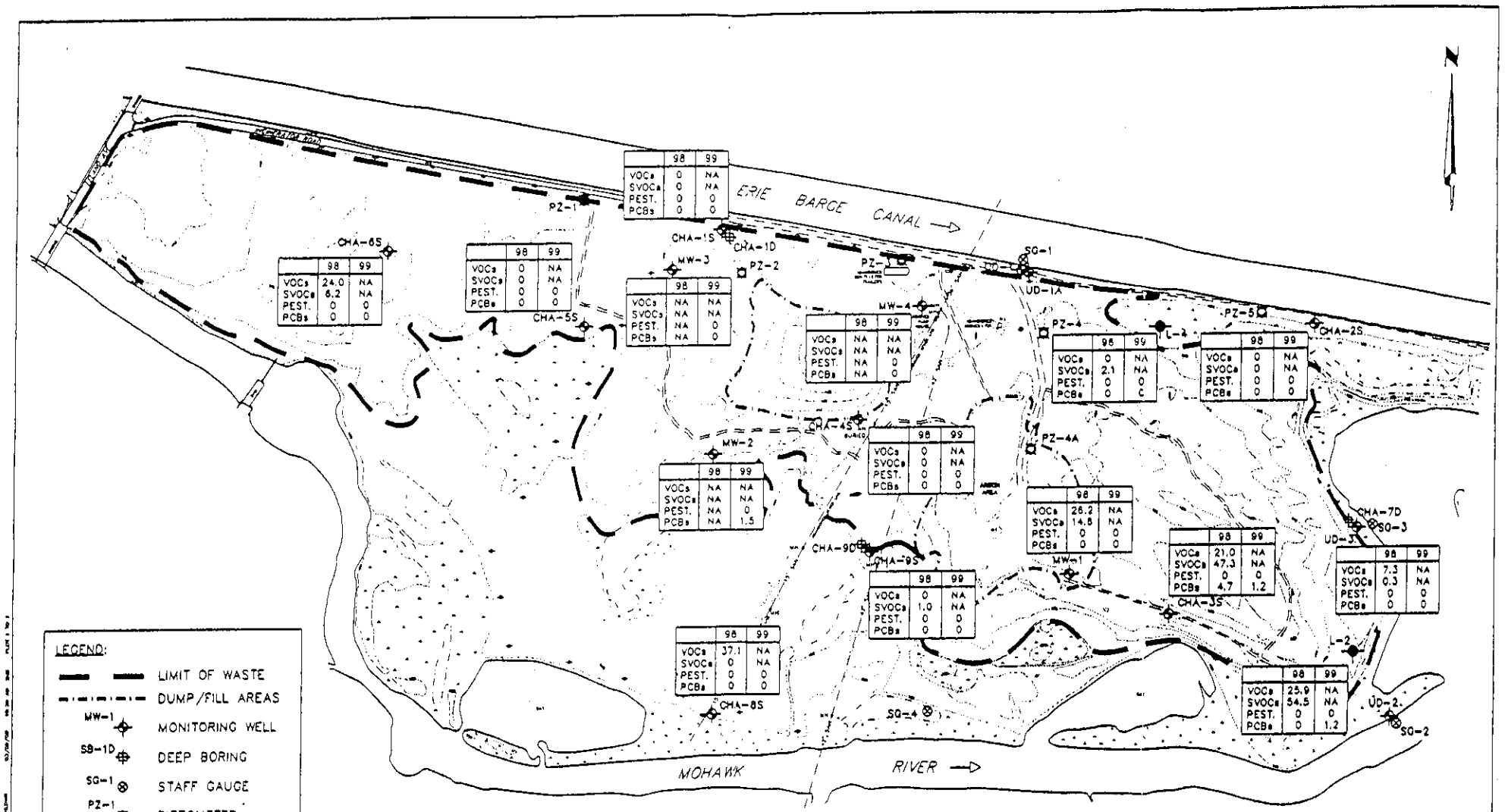
ALL SAMPLES COLLECTED IN 1998. NO 1999 SAMPLES.

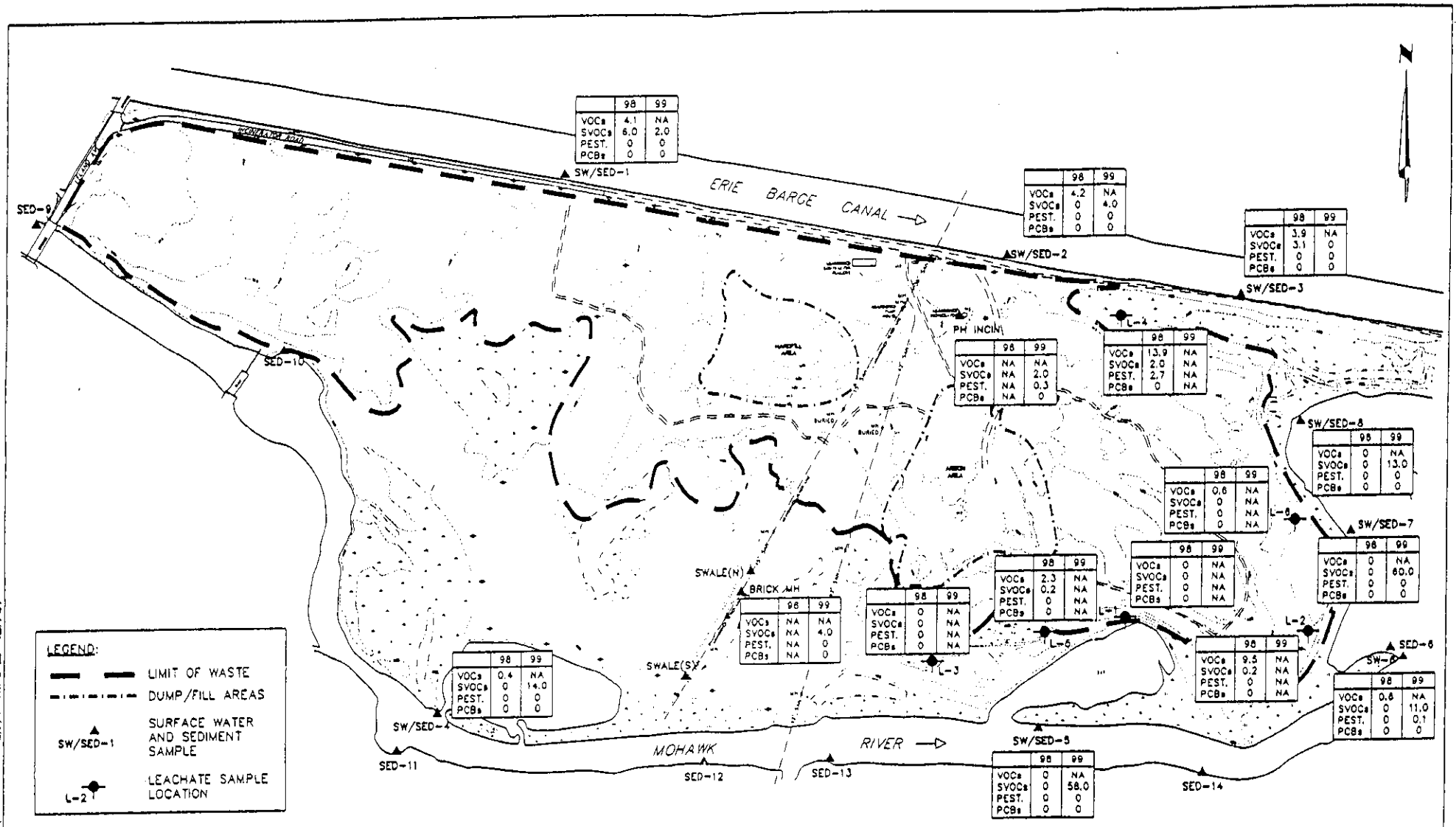
LMS Lawler, Matusky & Skelly Engineers, LLP
Environmental Science & Engineering Consultants

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

FIGURE 2
SURFACE SOIL ORGANIC RESULTS
UTICA CITY DUMP RI/FS


CRIE BARGE CANAL
MOHAWK RIVER
PH INCIN
SED-9
UPSTREAM SAMPLE
SW/SED-1
SW/SED-2
SW/SED-3
SW/SED-4
SW/SED-5
SW/SED-6
SW/SED-7
SW/SED-8
SED-10
SED-11
SED-12
SED-13
SED-14
SWALE(N)
SWALE(S)
BRICK MH
LEGEND:
LIMIT OF WASTE
DUMP/FILL AREAS
SURFACE WATER AND SEDIMENT SAMPLE
LEACHATE SAMPLE LOCATION
GRAPHIC SCALE
NOTES:
SAMPLE LOCATIONS APPROXIMATE.
ALL UNITS IN µG/KG (PPB).
Lawler, Matusky & Skelly Engineers, LLP
Environmental Science & Engineering Consultants
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
FIGURE 3
SEDIMENT
ORGANIC SAMPLE RESULTS
UTICA CITY DUMP RI/FS


ERIE BARGE CANAL
MOHAWK RIVER
PZ-1
CHA-6S
CHA-5S
CHA-1S
CHA-1D
MW-3
PZ-2
SG-1
UD-1A
MW-4
PZ-4
PZ-5
L-2
CHA-2S
CHA-4S
MW-2
PZ-4A
CHA-9D
CHA-9S
MW-1
CHA-3S
CHA-7D
SG-3
UD-3
CHA-8S
SG-4
UD-2
SG-2
LEGEND:
LIMIT OF WASTE
DUMP/FILL AREAS
MONITORING WELL
DEEP BORING
STAFF GAUGE
PIEZOMETER
GRAPHIC SCALE
NOTES:
ALL UNITS IN µG/L (PPB).
FIRST NUMBER (BEFORE /) FOR 1998 DATA AND SECOND NUMBER (AFTER /) FOR 1999 DATA. NA = NOT ANALYZED.
Lawler, Matusky & Skelly Engineers, LLP
Environmental Science & Engineering Consultants
CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS
FIGURE 4
GROUNDWATER SAMPLING
ORGANIC RESULTS
UTICA CITY DUMP RI/FS



	98	99
VOCs	4.1	NA
SVOCs	6.0	2.0
PEST.	0	0
PCBs	0	0

	98	99
VOCs	4.2	NA
SVOCs	0	4.0
PEST.	0	0
PCBs	0	0

	98	99
VOCs	3.9	NA
SVOCs	3.1	0
PEST.	0	0
PCBs	0	0

	98	99
VOCs	NA	NA
SVOCs	NA	2.0
PEST.	NA	0.3
PCBs	NA	0

	98	99
VOCs	13.9	NA
SVOCs	2.0	NA
PEST.	2.7	NA
PCBs	0	NA

	98	99
VOCs	0	NA
SVOCs	0	13.0
PEST.	0	0
PCBs	0	0

	98	99
VOCs	0.6	NA
SVOCs	0	NA
PEST.	0	NA
PCBs	0	NA

	98	99
VOCs	0	NA
SVOCs	0	60.0
PEST.	0	0
PCBs	0	0

	98	99
VOCs	0	NA
SVOCs	0	NA
PEST.	0	NA
PCBs	0	NA

	98	99
VOCs	2.3	NA
SVOCs	0.2	NA
PEST.	0	NA
PCBs	0	NA

	98	99
VOCs	0	NA
SVOCs	0	NA
PEST.	0	NA
PCBs	0	NA

	98	99
VOCs	NA	NA
SVOCs	NA	4.0
PEST.	NA	0
PCBs	NA	0

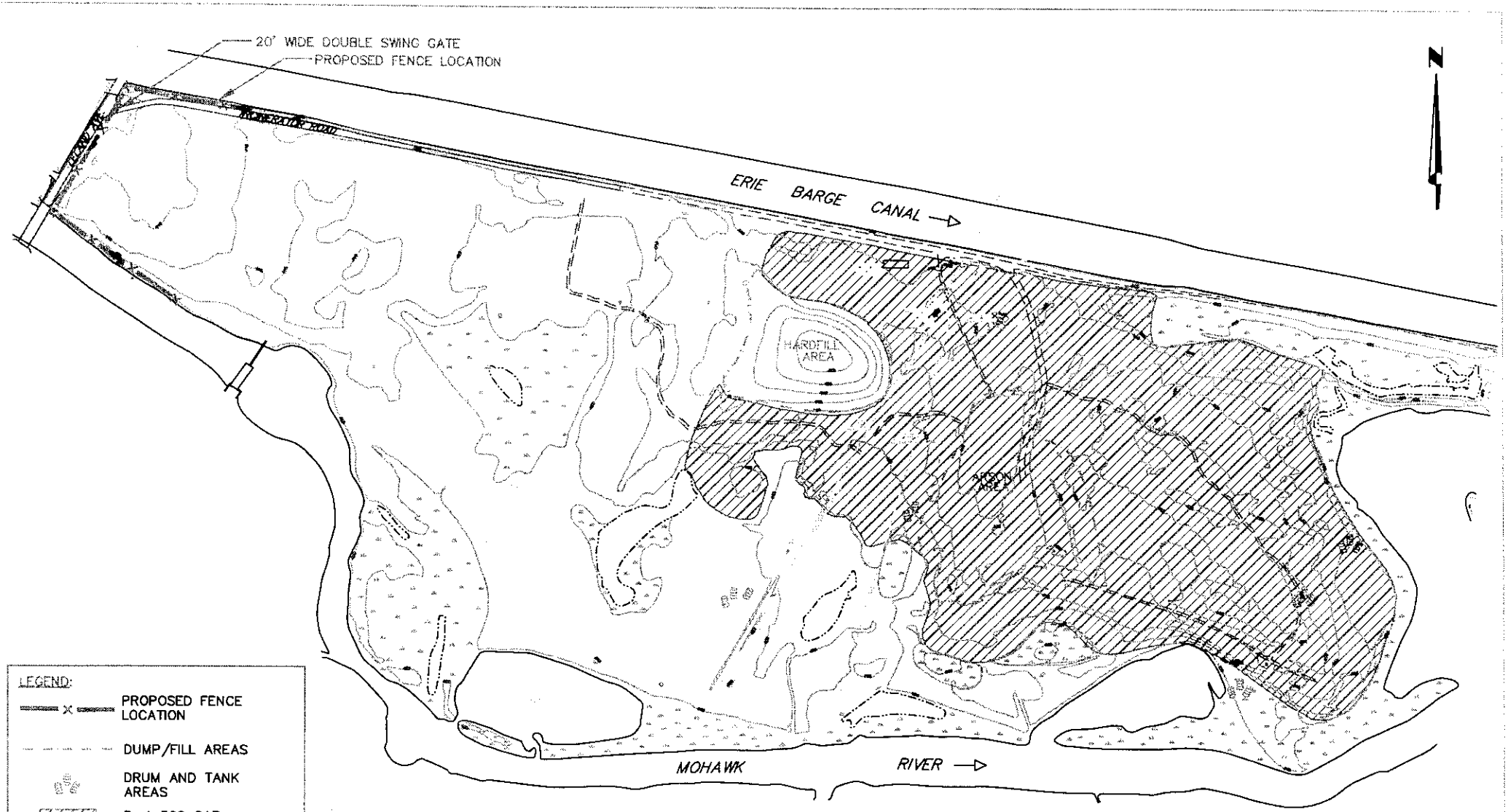
	98	99
VOCs	0.4	NA
SVOCs	0	14.0
PEST.	0	0
PCBs	0	0

	98	99
VOCs	9.5	NA
SVOCs	0.2	NA
PEST.	0	NA
PCBs	0	NA

	98	99
VOCs	0.6	NA
SVOCs	0	11.0
PEST.	0	0.1
PCBs	0	0

	98	99
VOCs	0	NA
SVOCs	0	58.0
PEST.	0	0
PCBs	0	0

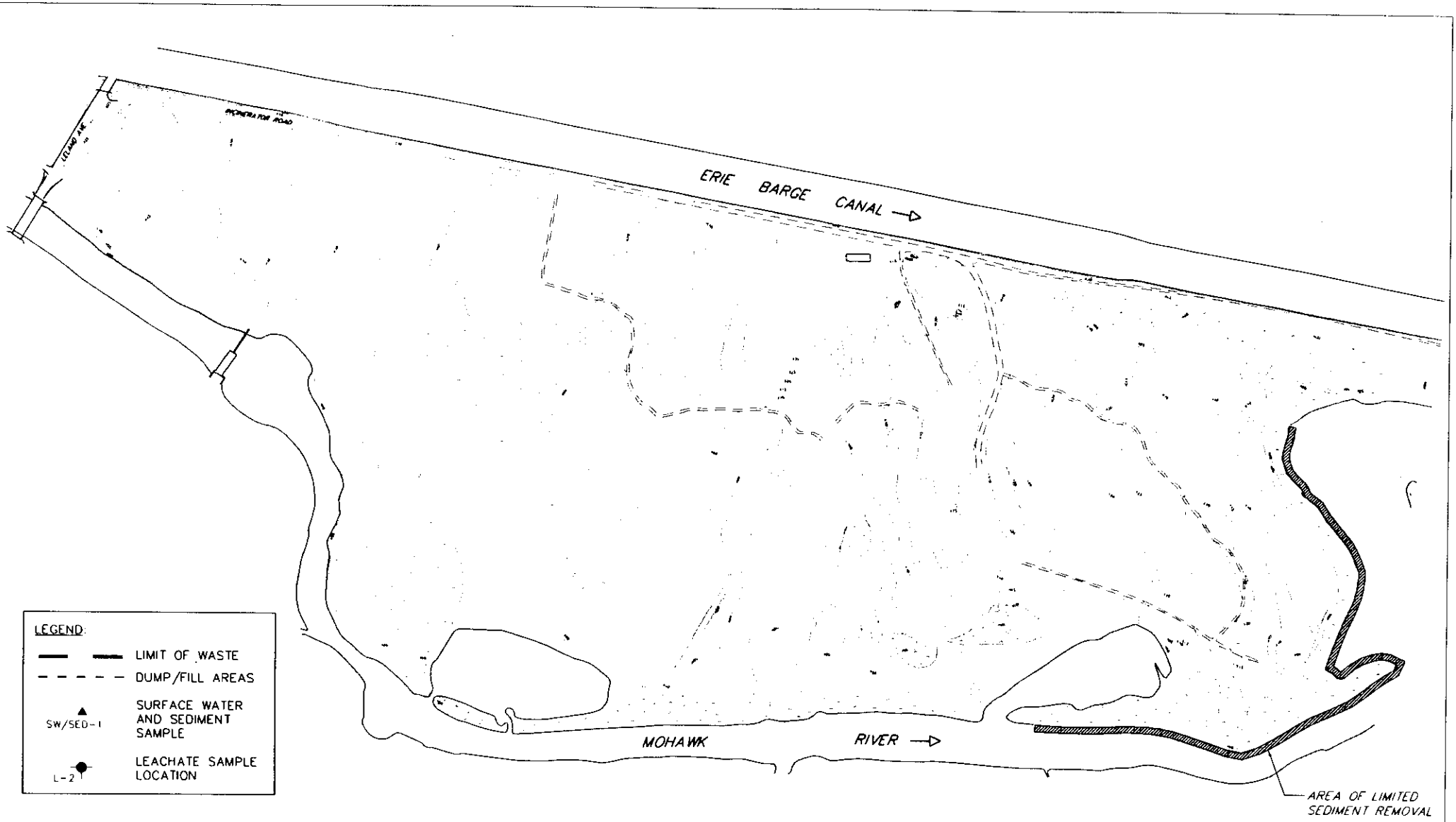
FIGURE 5
SURFACE WATER AND LEACHATE ORGANIC SAMPLE RESULTS
UTICA CITY DUMP RI/FS



LMS Lawler, Matusky & Skelly Engineers, LLP
Environmental Science & Engineering Consultants

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

FIGURE 6
ALTERNATIVE 4b
Part 360 CAP
UTICA CITY DUMP RI/FS



NOTE:
SAMPLE LOCATIONS APPROXIMATE.

LMS Lawler, Malusky & Skelly Engineers, LLP
Environmental Science & Engineering Consultants

CHA CLOUGH, HARBOUR & ASSOCIATES LLP
ENGINEERS, SURVEYORS, PLANNERS & LANDSCAPE ARCHITECTS

FIGURE 7
ALTERNATIVE 6
SEDIMENT REMOVAL
UTICA CITY DUMP RI/FS

APPENDIX A

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY

Utica City Dump
Proposed Remedial Action Plan
City of Utica, Oneida County
Site No. 6-33-015

The Proposed Remedial Action Plan (PRAP) for the Utica City Dump was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued for pubic comment on February 1, 2002. The PRAP identified the preferred remedy for the site, summarized the other alternatives considered, and discussed the reasons for choosing the proposed remedy.

The elements of the proposed remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS will be resolved.

2. Landfill closure (52 acres east of the Hardfill Area) according to the 1999 NYS Part 360 Regulations, to prevent exposure to surface soils and reduce the generation of landfill leachate.

3. Solid waste excavation and consolidation by placement of waste under the cap, to limit exposure to waste. Any consequential amount of hazardous waste found will be removed off-site for the disposal at a permitted facility.

4. Demolition and disposal of the onsite incinerator and surrounding structure.

5. Fencing along Leland Ave., to prevent trespass.

6. An institutional control will be imposed, in such form as the NYSDEC may approve, that would prevent both disturbance to the landfill cap and to prevent the use of the untreated groundwater as a drinking water source. The institutional control would be imposed in the form of existing use and development restrictions to prevent the use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the New York State Department of Health. The institutional control would also be imposed to prevent disturbance of the cap, so that the constructed cap would stay in place and prevent the infiltration of precipitation into the landfill.

   The property owner would complete and submit to the NYSDEC an annual certification until the NYSDEC notifies the property owner in writing that this certification is no longer

needed. This submittal would contain certification that the institutional controls and engineering controls put in place, pursuant to the Record of Decision, are still in place, have not been altered, and are still effective.

7. Sediment removal (with replacement of clean fill) along the eastern banks of the landfill (includes submerged portion of banks), to prevent the exposure of fish and wildlife to levels of PCBs and metals above standards/guidance values and background.

8. Monitoring, to evaluate the remedial actions. Since the remedy will result in untreated hazardous waste remaining at the site, a long-term monitoring program will be instituted. Monitoring locations will be selected according to previous sampling results, the grade and topography of the land, and to address particular areas of concern. The purpose of monitoring will be to evaluate leachate/groundwater quality over time and to assess the degree to which the remedial actions were meeting the established remedial goals. In addition to the environmental monitoring, annual monitoring of the landfill cap will be necessary to check that the waste is constantly covered. Any repairs to the damaged portions of the cap should be performed as soon as possible. This program will allow the effectiveness of the landfill cap to be monitored and will be a component of the operation and maintenance for the site. Long-term operation and maintenance (for thirty years or more, with 3-5 year reviews) will be required.

Public Participation Activities

The PRAP was prepared by the New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH) and announced via a Fact Sheet (Attachment 1) sent to over 70 addresses on the site mailing list, articles in the local newspapers, and selected mailings of the complete PRAP to local officials and interested parties. The mailing list includes local citizens, businesses, local, state and federal governmental agencies, media, and environmental organizations. A public meeting was held at the Utica City Hall in Utica, NY on February 21, 2002. The meeting included presentations by NYSDEC and NYSDOH officials on the results of the Remedial Investigation and Feasibility Study and discussions of the proposed remedy. The meetings provided an opportunity for the public to ask questions, discuss their concerns, and provide comment on the proposed plan. Approximately 25 people attended the meeting. A 90-day comment period was established from February 1, 2002 to May 6, 2002. The normal 30-day comment period was extended after a request was received from the mayor of City of Utica. These comments will become part of the Administrative Record for this site. Written comments were also received from the following parties during the course of the public comment period:

1. Steven P. Devan, P.E., Commissioner of the Oneida County Department of Water Quality and Water Pollution Control; and

2. Timothy J. Julian, Mayor of the City of Utica.

Document repositories were established to provide the public opportunity to review technical documents. These included the Utica Public Library in Utica, the Utica City Clerk's Office in the Utica City Hall, the NYSDEC Region 6 Sub-Office, and the NYSDEC office in Albany.

Public Meeting Comments

The following are comments received at the public meetings, followed by the NYSDEC response. Where possible, comments of a similar nature have been grouped together.

Comment 1: What is the time frame for this project?

Response 1: One or two construction seasons will be needed for the construction of the landfill cap. The period of time for the sediment removal should be less than one year. (Institutional controls, such as deed restrictions, are more of an administrative process which requires less than one year.) After the construction of the cap, there will be a need for operation and maintenance of the remedy. The cap will need mowing to prevent trees from rooting in the soil. Any damage from erosion will need to be repaired. During the next 30 years, environmental monitoring of the effectiveness of the cap will be necessary.

Comment 2: Please describe the funding process of this remedial program.

Response 2: After the ROD is signed, the NYSDEC will ask the Potentially Responsible Parties (PRPs) to sign a consent order to take over the remedial design and remedial construction of the remedy for the landfill. If the municipality enters into a consent order, there is a possibility that assistance would be available through the Title 3 program. The municipality, after the consent order is in place, would apply for a State Assistance Contract, where the state would reimburse the municipality for 75% of the eligible costs spent by the municipality. Currently all funds from the 1986 Environmental Quality Bond Act have been allocated. However, there is a possibility that the "State Superfund" could receive additional funding in a future state budget.

Comment 3: The end of the comment period is March 4, 2002. Is the City bound to the ROD if they don't comment by March 4th ?

Response 3: Yes. The ROD is an official NYSDEC document. If more information is obtained or discovered by the NYSDEC, or brought to its attention, after the ROD, then a change in the remedy may occur. This would probably be in the form of an Explanation of Significant Difference, which would explain the change in the remedial plan, accompanied by another public meeting.

Comment 4: There are two nearby properties which are also Inactive Hazardous Waste Sites. Is there going to be a measurable improvement to human health and environmental risk?

Response 4: There are two nearby sites, Universal Waste (Universal Waste Site #633009) and Utica Alloys (Site #633047). The Utica Alloys site consists of the approximately 1.5 acre area occupied by the industrial concern known as Utica Alloys, Inc. Utica Alloys is a Class 2 site, and is located on the corner of Leland Avenue and Wurz Avenue.

The Universal Waste site was recently changed from a Class 2a designation to a Class 2 designation. A Class 2 site poses a significant threat to human health and/or the environment.

These sites are still under investigation. However, the cleanup plan for the Utica City Dump, and the problems posed by the dump, should not wait for the investigation of another site. The NYSDEC is confident in the quality of sediment data collected during the investigation of the Mohawk River. Upstream and downstream locations, as well as both sides of the river, were sampled in order to determine the contributors of the PCB contamination. Although there are upstream sources that have contributed to the river contamination, there is a significant increase in PCB concentrations in the sediment along the southeastern banks of the landfill. This material will be removed and placed under the soil cover of the landfill.

Comment 5: Also, isn't it unfair to come up with a plan that many PRPs will be sued for to pay for it?

Response 5: The State Superfund process requires the NYSDEC to identify PRPs at the beginning of the investigations, and ask them if they want to enter into the remedial process by means of a consent order. If the PRPs decline, State Superfund monies could be used to complete the investigation. After the ROD is signed, the PRPs will be approached again to see if they want to implement the remedial design and construction. If this attempt is unsuccessful, then the site may be referred back to the State Superfund. The NYSDEC requires that PRPs be timely when requested to conduct remedial programs as these sites pose a significant threat to human health and the environment, and need to be remediated. If the remedial investigations and activities have used State monies, then cost recovery actions are undertaken to reimburse the State Superfund. If a municipality, under a consent order, receives 75% reimbursement of eligible costs under a State Assistance Contract, part of that contract may require the municipality to perform a PRP search report, identifying PRPs that generated, transported, and/or disposed hazardous wastes at or to the site. This also would identify other owners of the site during the hazardous waste disposal period.

Comment 6: What is the possibility of putting the Bossert construction and demolition (C&D) debris at the landfill for grading purposes?

Response 6: During the design phase of the landfill, the NYSDEC will be able to assess the applicability of using construction and demolition debris as alternative grading material for the landfill closure. This assessment would include an economic evaluation of waste regrading and consolidation versus use of alternative grading material to achieve the minimum slopes required for capping (usually four percent). The NYSDEC requires that placement of alternative grading material not extend the schedule for capping the landfill, and that all tipping fees be dedicated to the capping of the landfill.

Comment 7: I want to show you about 150 spots that have holes, etc. that the Bossert material could be used for grading purposes.

Response 7: See response to Comment # 6.

Comment 8: How long is the design process, after the ROD is issued?

Response 8: Approximately one year.

Written Comments

Two letters were received during the comment period. Responses to specific comments are offered below.

- A letter dated February 15, 2002 was received on February 19, 2002 from Steven P. Devan, P.E., Commissioner of the Oneida County Department of Water Quality and Water Pollution Control (OC).

Comment OC-1: It is our opinion that the treated groundwater/leachate from this site should go to a NYSDEC SPDES permitted surface discharge, rather than be discharged to the sanitary sewer system for treatment at the Oneida County Water Pollution Control Plant.

OCSD pretreatment requirements for leachate and groundwater from remediation sites, including that PCBs be non-detect at 65 ppt, are such that the treated discharge would be relatively uncontaminated, and considered unnecessary excess flow for the Water Pollution Control Plant.

Response: See Response to Comment OC-2.

Comment OC-2: The OCSD is in the process of identifying and eliminating excessive flow throughout its sewer system. We expect that the Utica City Dump site, which is located between the Mohawk River and Barge Canal, would generate much greater than the OCSD's 10,000 GPD maximum acceptance guideline.

Response: In light of the above comments, and concerns from the City of Utica, an impermeable Part 360 landfill cap has been selected as the final remedy and a leachate collection trench will not be needed at this time. Therefore, there will be no collected leachate pumped to the Water Pollution Control Plant.

- A letter dated April 29, 2002 was received from Timothy J. Julian, Mayor of the City of Utica. There were many issues and comments within the letter.

Comment U-1: First I wish to express my appreciation for the extension of time to comment on the Proposed Remedial Action Plan (PRAP) for the old City of Utica Landfill on Leland Avenue.

Response: None needed.

Comment U-2: Over the past six weeks, we have reviewed the information in the draft PRAP and have consulted with our State representatives and the staff of the NYS Legislative Commission on solid waste management. This review has resulted in raising significant questions and problems which need to be addressed. Very frankly, I don't believe that the information compiled by the DEC and their representatives to date, is sufficient for the City to make a decision with regard to the PRAP.

Response: The City of Utica is the owner and was the operator of the Utica City Dump. The site was listed as a Class 2 inactive hazardous waste disposal site in 1993. The City was approached in 1997 to perform a Remedial Investigation/Feasibility Study for the Utica City Dump. The State undertook the Remedial Investigation in 1998 and 1999, and funded the Feasibility Study in 1999 and 2000. The Feasibility Study developed and evaluated various remedial alternatives, and the State proposed one of those remedial options in the Proposed Remedial Action Plan. The remedial process is not an opened ended process. The NYSDEC has a responsibility to the public to move forward and propose a remedy which we feel we have sufficiently developed and evaluated.

Comment U-3: I have very serious concerns with respect to the following:

The proposed method of capturing, transporting and treating leachate has not been shown to be effective in light of the total amount of leachate at this site.

Response: See Response to Comment U-4.

Comment U-4: I am concerned the DEC will come back at a later date and require a more extensive and expensive leachate collection system. Of equal or greater importance, the method of leachate treatment in the PRAP is not feasible according to the Commissioner of the Oneida County Department of Water Quality and Water Pollution Control.

Response: In light of the above comments, and concerns from the Oneida County Department of Water Quality and Water Pollution Control, the remedy was revised to an impermeable Part 360 landfill cap as a final remedy and a leachate collection trench will not be needed at this time. Therefore, there will be no collected leachate pumped to the Water Pollution Control Plant.

Comment U-5: The fact that this site is almost entirely bordered by the Mohawk River and NYS Barge Canal, both of which flood regularly, raises a concern that, again, DEC will come back in the future and require a more extensive and expensive remediation.

Response: See above response.

Comment U-6: Although, I have no basis at this time to disagree with your consultants' characterization of the PCB contaminated sediments on the border of our property, there is not sufficient information to conclude that this contamination is solely attributable to the closed City landfill. As you know, there are at least two adjacent hazardous waste sites with the same principal contaminant, and I understand there are numerous other unremediated waste sites in the watershed which may also be the source of PCB contamination.

Response: This agency recognizes that there are upstream sources to the PCB contamination, and understands that contamination is not solely attributable to the closed City landfill. However, since there are PCBs present in the groundwater within the landfill, there is a definite pathway for the PCB contamination along the landfill side of the Mohawk River to be from the landfill. Sediment samples were collected on both sides of the river, and the highest PCB concentrations were located on the southeast corner of the landfill. It is nearly impossible to determine an exact percentage of contribution from the landfill or any other site. However, the data shows that higher concentrations are near the landfill. There is currently a fish advisory in this stretch of the Mohawk from PCB contamination. To be protective, the NYSDEC has decided to remove that portion of the PCB contaminated sediments now. Investigations on the other sites are underway.

Comment U-7: I am very concerned that the State only identified two other principally responsible parties (PRP's), based on industrial survey done in 1980. This landfill was operational during a period of heavy industrial activity in the City of Utica spanning over 40 years. It is completely unfair to ask this City to commit to a remediation plan that will ultimately bind Utica industries to fund the plan without having any notice of the Plan or chance to participate. I cannot allow this or any future administration to be put in that position.

Response: The process for identifying PRPs has not ended. The PRPs already identified were contacted to perform the RI/FS. Since the PRPs did not agree to perform the RI/FS, the site was referred to the State Superfund for the RI/FS. The PRPs will again be contacted to perform the remedial design and remedial action. If the PRPs decline to perform those activities, then the site would then be referred to the State Superfund. The cost recovery process for State Superfund sites begins when money is spent on remedial activities. At that time, PRPs are again contacted to pay for the remedial process performed at the site. The NYSDEC also provided public notice of the proposed plan, and allowed for a 90 day comment period.

Comment U-8: You have dismissed my request that we be granted the same consideration your Department has given to numerous other hazardous waste site remediation projects, including at least one in this county; permission to use construction and demolition debris as alternative grading material.

Response: During the design phase of the landfill, the NYSDEC will be able to assess the applicability of using construction and demolition debris as alternative grading material for the landfill closure. This assessment would include an economic evaluation of waste regrading and consolidation versus use of alternative grading material to achieve the minimum slopes required for capping (usually four percent). The NYSDEC requires that placement of alternative grading material not extend the schedule for capping the landfill, and that all tipping fees be dedicated to the capping of the landfill.

Comment U-9: Subsequent to your presentation on February 21, 2002, in which you indicated that your Proposed Plan would be funded with a 75% state 25% local formula, I learned of the Governor's proposal that would increase the State's share to 90%. This site never should have been portrayed as purely a City of Utica site.

Response: The Governor's proposal would increase state funding to 90% for the Environmental Restoration Program. Funding for Title 3 program will remain at 75%. State Assistance Contracts through the Title 3 program is an avenue for municipalities to receive funding from the State to remediate municipally owned Class 2 inactive hazardous waste disposal sites. The City of Utica was the owner and operator of the

landfill. Therefore, the characterization of the landfill as a City of Utica facility is accurate.

Comment U-10: This landfill likely served generators from within and outside the City of Utica. Perhaps more importantly, the site is at a point in the watershed where it received the outfall from a very large region. This site is at the heart of the Mohawk Valley, an area of significant environmental and recreational importance. I believe it is incumbent on the State to treat this site as one with regional and statewide significance and to reflect the State's funding accordingly.

Response: The Department recognizes that the landfill is a Class 2 Inactive Hazardous Waste Disposal Site. A Class 2 site is one that poses a significant threat to human health and/or the environment. An RI/FS paid for and conducted by the NYSDEC determined the nature and extent of the contamination. This RI/FS also analyzed various remedial alternatives compared to seven evaluation criteria. The NYSDEC believes that the selected remedy will provide effective and reliable protection for human health and the environment, and is cost effective. The extent of the City of Utica's liability for the cleanup of this site is not a function of the availability of future state funding.

Comment U-11: Based on this, I plan to seek not only the highest available percentage of the applicable State hazardous waste program funds, but also to seek the State's special consideration for financial support above and beyond the programmatic limits. Any agreement must be contingent upon prepayment of the state's share, or the creation of an escrow for that purpose.

Response: Your comments are noted and will be referred to counsel.

Comment U-12: Please be advised that in addition to Corporation Counsel John Dillon, the Oneida-Herkimer Solid Waste Authority and their attorney Peter Rayhill have agreed to assist the City, I would appreciate you including them in all future correspondence.

Response: The NYSDEC will meet this request.

Comment U-13: Therefore, I am requesting that the Department develop a revised Plan that will resolve the significant problems noted above. I would appreciate your written confirmation that you are suspending action on the Plan you presented in February and that you will develop a revised Plan in accordance with this request.

Response: The final remedy has been revised to reflect the comments received during the public comment period. Since the selected remedy was presented in the PRAP, development and release of a revised PRAP is not required. The selected remedy is Alternative 4b in both the PRAP and ROD. Estimated material quantities, estimated unit costs and annual operation, maintenance and monitoring costs have been revised to reflect cost saving opportunities identified since the release of the PRAP.

APPENDIX B

Administrative Record
Document List

Administrative Record
Document List

EA Science and Technology, Inc.	April 1988	*Engineering Investigations at Inactive Hazardous Waste Sites Phase II Investigation - City of Utica Dump*
URS Consultants, Inc.	May 1992	*Engineering Investigations at Inactive Hazardous Waste Sites Phase II Investigation - City of Utica Dump*
NYSDEC	October 1997	*Citizen Participation Plan for the Remedial Investigation/Feasibility Study Utica City Dump* (Revised January 1998 and January 2002)
Lawler, Matusky & Skelly Engineers, LLP with Clough, Harbour & Asssociates, LLP	Dec. 1997	*Project Work Plan for Utica City Dump RI/FS New York State Superfund Contract*
Lawler, Matusky & Skelly Engineers, LLP with Clough, Harbour & Asssociates, LLP	Dec. 1997	*Field Sampling Plan Utica City Dump RI/FS New York State Superfund Contract*
Lawler, Matusky & Skelly Engineers, LLP with Clough, Harbour & Asssociates, LLP	Dec. 1997	*Health and Safety Plan Utica City Dump RI/FS New York State Superfund Contract*
Lawler, Matusky & Skelly Engineers, LLP with Clough, Harbour & Asssociates, LLP	Dec. 1997	*Quality Assurance Project Plan Utica City Dump RI/FS New York State Superfund Contract*
Lawler, Matusky & Skelly Engineers, LLP with Clough, Harbour & Asssociates, LLP	Oct. 1998	*Feasibility Study Memorandum Utica City Dump RI/FS New York State Superfund Contract*
Lawler, Matusky & Skelly Engineers, LLP with Clough, Harbour & Asssociates, LLP	August 2000	*Remedial Investigation Report Utica City Dump RI/FS New York State Superfund Contract*
Lawler, Matusky & Skelly Engineers, LLP with Clough, Harbour & Asssociates, LLP	September 2000	*Feasibility Study Utica City Dump RI/FS New York State Superfund Contract*
NYSDEC	January 2002	*Proposed Remedial Action Plan Fact Sheet*
NYSDEC	January 2002	*Proposed Remedial Action Plan for the Utica City Dump*
NYSDEC	August 2003	*Record of Decision for the Utica City Dump*