RECORD OF DECISION

Niagara Mohawk (NM) – Hiawatha Boulevard - Syracuse Former MGP Site
Subsite of the Onondaga Lake Site
City of Syracuse, Onondaga County, New York
Site No. 7-34-059

NYSDEC

EPA Region 2

March 2010

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
NEW YORK, NEW YORK

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DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Niagara Mohawk (NM) – Hiawatha Boulevard - Syracuse Former MGP Site[1]
Subsite of the Onondaga Lake Superfund Site
City of Syracuse, Onondaga County, New York

Superfund Site Identification Number: NYD986913580
Operable Unit 13

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) documents the New York State Department of Environmental Conservation (NYSDEC) and U.S. Environmental Protection Agency's (EPA's) selection of a remedy for the NM – Hiawatha Boulevard - Syracuse Former Manufactured Gas Plant site (Site), a subsite of the Onondaga Lake Superfund site. The selected remedy is chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 US Code (USC) §9601, *et seq*., and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 Code of Federal Regulations Part 300. This decision document explains the factual and legal basis for selecting the remedy for this Site. The attached index (see Appendix III) identifies the items that comprise the Administrative Record upon which the selection of the remedy is based.

The New York State Department of Health was consulted on the proposed remedy in accordance with CERCLA Section 121(f), 42 USC §9621(f), and it concurs with the selected remedy.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy consists of the in-situ solidification (ISS) of an estimated 14,500 cubic yards of contaminated soil, enhanced bioremediation of contaminated groundwater along portions of the New York State Barge Canal and Onondaga Lake, installation of a soil cover system, development of a Site Management Plan, and institutional controls. The selected remedy is expected to reduce the site's contribution to future contamination of the Onondaga Lake Superfund site.

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1 This is also being tracked in EPA's CERCLIS data base as Operable Unit #13 of the Onondaga Lake National Priorities List (NPL) Site.

During the design phase, bench- and pilot-scale treatability studies will be performed to evaluate the effectiveness of various soil stabilization mixtures at reducing the leachability and permeability of the impacted soil, including the Solvay waste, at the Site.

The environmental benefits of the selected remedy may be enhanced by consideration, during remedial design, of technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green policy[2]. This will include consideration of green remediation technologies and practices.

The selected remedy for this Site will result in a long-term reduction in the toxicity, mobility, or volume of the contaminants of concern, namely, volatile organic compounds and polycyclic aromatic hydrocarbons.

DECLARATION OF STATUTORY DETERMINATIONS

The selected remedy meets the requirements for remedial actions set forth in CERCLA Section 121, 42 USC §9621, because it: 1) is protective of human health and the environment; 2) meets a level or standard of control of the hazardous substances, pollutants, and contaminants, which attains the legally applicable or relevant and appropriate requirements under federal and state laws; 3) is cost effective; 4) utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable; and 5) satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as their principal element.

Because this remedy will result in contaminants remaining on-Site above levels that would allow for unlimited use and unrestricted exposure to Site media, CERCLA requires that the Site be reviewed at least once every five years. If justified by the review, additional remedial actions may be selected and implemented to remove, treat, or contain the contaminated sediments and soils.

ROD DATA CERTIFICATION CHECKLIST

This ROD contains the remedy selection information noted below. More details may be found in the Administrative Record file for this Site.

- Contaminants of concern and their respective concentrations (see ROD, pages 8 to 11).
- Baseline risk represented by the contaminants of concern (see ROD, pages 12 to 14).
- Cleanup levels established for contaminants of concern and the basis for these levels (see ROD page 9).
- Manner of addressing source materials constituting principal threats (see ROD, page 28).
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of surface water and groundwater used in the baseline risk assessment and ROD (see ROD, page 11).

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2 See http://epa.gov/region2/superfund/green_remediation.

- Potential land, surface water, and groundwater use that will be available at the Site as a result of the selected remedy (see ROD, page 11).

- Estimated capital, annual operation and maintenance, and present-worth costs; discount rate; and the number of years over which the remedy cost estimates are projected (see ROD, pages 17 to 22).

- Key factors used in selecting the remedy (e.g., how the selected remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision) (see ROD, pages 28 to 32).

AUTHORIZING SIGNATURES

Dale A. Desnoyers, Director Division of Environmental Remediation NYSDEC	MAR 31 2010 Date
Walter E. Mugdan, Director Emergency and Remedial Response Division EPA, Region 2	March 30, 2010 Date

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RECORD OF DECISION FACT SHEET
EPA REGION 2

Site

Site name:	Niagara Mohawk (NM) – Hiawatha Boulevard - Syracuse Former MGP Site, a Subsite of the Onondaga Lake Superfund Site
Site location:	City of Syracuse, Onondaga County, New York
HRS score:	50
Listed on the NPL:	December 16, 1994

Record of Decision

Date signed:	March 31, 2010
Selected remedy:	In-situ solidification of source areas, enhanced bioremediation of groundwater, soil cover system and institutional controls
Capital cost:	$7,826,000
Operation and maintenance cost:	$151,000 - $207,000 per year
Present-worth cost:	$10,389,000

Lead	NYSDEC
Primary Contact:	Anthony Karwiel, Project Manager, NYSDEC, (518) 402-9662
Secondary Contact:	George Heitzman, Section Chief, NYSDEC, (518) 402-9662

Main PRP	National Grid

Waste

Waste type:	Manufactured gas plant tars, volatile organic compounds (i.e., benzene, toluene, ethylbenzene, xylenes) and semi-volatile organic compounds (i.e., naphthalene, polycyclic aromatic hydrocarbons)
Waste origin:	Discharges from the NM – Hiawatha Boulevard - Syracuse Former MGP Site to soils and groundwater
Contaminated media:	Soil and groundwater

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DECISION SUMMARY

Niagara Mohawk (NM) – Hiawatha Boulevard - Syracuse Former MGP Site
Subsite of the Onondaga Lake Site
City of Syracuse, Onondaga County, New York
Site No. 7-34-059

March 2010

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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LIST OF ACRONYMS AND ABBREVIATIONS USED IN ROD AND RESPONSIVENESS SUMMARY

AMSL	Above Mean Sea Level
ARAR	Applicable or Relevant and Appropriate Requirement
BERA	Baseline Ecological Risk Assessment
bgs	Below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CAMP	Community Air Monitoring Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	Code of Federal Regulations
cm	centimeter
COPC	Chemical (or Contaminant) of Potential Concern
CSF	Carcinogenic Slope Factor
CWA	Clean Water Act
cy	cubic yard
DO	Dissolved Oxygen
ECL	Environmental Conservation Law
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
ft	feet/foot
GAC	Granular Activated Carbon
gal/min	gallons per minute
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
IRM	Interim Remedial Measure
ISS	In-situ Solidification
kg	kilogram
km	kilometer
m	meter
Metro STP	Metropolitan Syracuse Sewage Treatment Plant
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MGP	Manufactured Gas Plant
mi	mile
NAPL	Non-Aqueous-Phase Liquid
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NM	Niagara Mohawk
NPL	National Priorities List

NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and Maintenance
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PRAP	Proposed Remedial Action Plan
PRP	Potentially Responsible Party
PSA	Preliminary Site Assessment
RAO	Remedial Action Objective
RfD	Reference Dose
RG	Remediation Goal
RI	Remedial Investigation
RME	Reasonable Maximum Exposure
ROD	Record of Decision
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SVOC	Semi-volatile Organic Compound
TBC	To-Be-Considered
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TSS	Total Suspended Solids
μg/kg	micrograms per kilogram
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound

SITE NAME, LOCATION, AND DESCRIPTION

On June 23, 1989, the Onondaga Lake site was added to the New York State Registry of Inactive Hazardous Waste disposal sites. On December 16, 1994, Onondaga Lake and its tributaries and the upland hazardous waste sites which have contributed or are contributing contamination to the lake (subsites) were added to the National Priorities List (NPL). This NPL listing means that the lake system is among the nation's highest priorities for remedial evaluation and response under the federal Superfund law for sites where there have been a release of hazardous substances, pollutants, or contaminants. The Niagara Mohawk (NM) – Hiawatha Boulevard - Syracuse Former Manufactured Gas Plant (MGP) site (Site) was included as a subsite of the Onondaga Lake Superfund site on March 11, 2010.

The Site is located in an industrial area at the southeast end of Onondaga Lake, within the City of Syracuse, Onondaga County, New York (see Figure 1). The former manufactured gas plant (MGP) was located on the northern portion of property currently owned by Onondaga County and occupied by the Metropolitan Sewage Treatment Plant (Metro STP). In the years after gas production ceased, the former MGP structures were razed and the Metro STP used the Site for expansion of the treatment plant. Today, much of the property is covered with structures associated with the treatment plant, including clarifiers, aeration tanks and an ammonia and phosphorus removal facility. The remainder of the Site is primarily covered by driveways, paved parking lots, and a county maintenance building. The existing Site layout and limits of the former MGP are shown on Figure 2. The former MGP is approximately twenty-three acres in area, and is bounded to the north by the barge canal, to the east by Hiawatha Boulevard, to the south by the Metro STP, and to the west by Onondaga Lake.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

Site History

Onondaga Lake and the surrounding areas have been significantly altered over the last two centuries through human activities. The lake level was lowered in the early 1800s to drain marsh lands adjacent to the lake in order to accommodate the construction of the Erie Canal and raised in the 1850s to its present day elevation. The salt industry, chemical industry, urban development and transportation corridors have all changed the lake and its shoreline.

The original Site area was the result of filling into low-lying areas associated with the construction of the Erie Canal and the eventual rerouting of Onondaga Creek. In the late 1800s, the Site was used as a fill area for Solvay Process waste[3]. A fertilizer manufacturer, the Syracuse Reduction and Manufacturing Company, operated on this Site in the early 1900s. The dates of operation of the fertilizer plant are not known but the facility is shown on a 1911 Sanborn map.

An MGP is a facility where gas for lighting and heating homes and businesses was produced. Manufactured gas was produced at this Site using both the coal gasification and carburetted water gas processes. In 1924, the facility was operated by the Syracuse Lighting Company and was then, in 1937, consolidated into Niagara Hudson Public Service Corporation. The company was renamed in late 1937, to the Central New York Power Corporation and operated under that name until 1950 when the facility was taken over by the Niagara Mohawk Power Corporation. Coal gas was produced on-Site until 1941, and then carburetted water gas was produced from 1941 to 1953.

Coal gas was produced by heating coal in retorts or beehive ovens, carbonizing the coal in the absence of air. The carburetted water gas process involved the passage of steam through burning coal. This

3 The Solvay Process waste was a byproduct of the production of soda ash (sodium carbonate).

formed a gaseous mixture (water gas or blue gas) which was then passed through a super heater which had an oil spray. The oil spray would generate additional gas, enhancing the heat and light capacity of the overall gas mixture.

In each process, the gas produced was cooled and purified prior to distribution. During the cooling, an oily liquid known as coal tar would condense from the hot gas and settle in the bottom of gas holders, pipes, and other structures. Typically, these structures were built below the ground surface, and would utilize groundwater as a bottom seal for cooling and pressure purposes. Hence, these structures have a significant potential to introduce byproducts from the coal gasification and carburetted water gas processes directly into the Site groundwater and subsurface soils.

The production of manufactured gas and the generation of related by-products resulted in the release of hazardous substances, including MGP tars and purifier waste into the soil and groundwater at the Site. These wastes contain benzene, toluene, ethylbenzene and xylene (BTEX), as well as a number of polycyclic aromatic hydrocarbons (PAHs) and cyanide.

Remedial History

Investigations and remedial actions were performed at the Site preceding the remedial investigation (RI) and reports were prepared by the various entities that were involved.

A subsurface soil investigation was conducted by O'Brien & Gere Engineers, Inc. from March 1970 to May 1971 on a large, multi-parcel area which included a majority of the Site. The purpose of this investigation was to characterize the area for the pending construction of upgrades to the Metro STP. No environmental sampling or analysis was performed as part of this investigation.

Construction records indicate that during the construction of the treatment plant expansion in the 1970s, the subsurface portions of the former gas distribution holder, the former relief holder, and the former tar separator were removed. The secondary clarifiers extend over the entire tar separator footprint, most of the relief holder footprint, and a portion of the distribution holder footprint. The bottom of the clarifier foundations slope from approximately 10.5 feet below ground surface (bgs) to approximately 23 feet bgs, indicating that the entire subsurface portion of these structures were completely removed. The analytical data from subsequent soil and groundwater sampling investigations support that there are likely no continuous or ongoing sources of impacted soils related to these former MGP structures.

In 1985, a test pit sampling program was conducted as part of the design for a proposed fuel island installation at Niagara Mohawk's service center. Three soil samples were collected from the test pit area. Laboratory analysis indicated low levels of arsenic and selenium which fell within background concentrations for the Eastern United States. In November 1987, EPA conducted a preliminary site assessment at the "Hiawatha Gas Plant," consisting of a site visit and walk-around, but no environmental samples were obtained for analysis.

The Site was the subject of a Preliminary Site Assessment (PSA) conducted between August 1995 and September 1998. The PSA characterized subsurface conditions and the nature and occurrence of chemical contaminants in the soil and groundwater at the Site, as well as near-shore sediments in Onondaga Lake. The study also included a fish and wildlife impact assessment and a preliminary risk assessment to evaluate potential exposure pathways of contaminants detected in soil and groundwater on-Site.

Interim Remedial Measures

Interim remedial measures (IRMs) are conducted at sites when a source of contamination or exposure pathway can be effectively addressed before completion of the RI and feasibility study (RI/FS).

Concurrent with the RI activities at the Site, Onondaga County acquired the Niagara Mohawk property to construct an ammonia removal/stage II phosphorus facility. Work on this project began in September 2001. Preliminary results of the PSA and RI indicated that contaminated soils were located within the proposed limits of the excavation of the foundations for the facility.

Based on the construction schedule required for the County's project, impacted soils in the construction zone required remediation (removal) before the RI/FS for the Site could be completed. Therefore, the removal of these soils was performed as an IRM between September 2001 and May 2002. The IRM included the removal of soils beneath the footprint of the County's facility upgrade and the excavation of trenches for the 72-inch and 84-inch diameter force mains and other piping, such as public water, storm and sanitary sewers, and electric utilities. Soils were excavated to a depth of approximately 15 feet throughout the footprint and to a depth of approximately 20 feet in an area where stained soils and non-aqueous phase liquid (NAPL) lenses and globules were observed in deeper soil samples. More than 100 wood foundation pilings associated with former MGP structures were also removed from the main excavation during the IRM. Approximately 73,000 cubic yards (cy) of contaminated soil was excavated from the Site during the IRM. In February 2003, an additional 325 cy of impacted soil was excavated from the area located adjacent to the northeast corner of the IRM footprint when a water line was connected to the County's administration building. These soils were disposed at permitted solid waste disposal facilities. Between September 2001 and May 2002, approximately 85,000,000 gallons of impacted groundwater was extracted and treated in the on-Site treatment unit prior to discharge under permit to the Metro STP. Dewatering operations continued through February 2003 during the construction phase of the Metro STP upgrade, resulting in the total extraction and treatment of more than 283,000,000 gallons of contaminated groundwater. Figure 3 indicates the IRM soil removal areas as well as historic soil removal activities associated with expansion of the Metro STP.

Remedial Investigation and Feasibility Study

An RI/FS was conducted to determine the nature and extent of the contamination at and emanating from the Site and to identify and evaluate remedial alternatives to address the contamination. The RI was conducted in phases between 2000 and 2006 to accommodate a court-mandated Onondaga County Metro STP expansion, culminating in the completion of an RI report in October 2006. An FS report was completed in October 2009.

Enforcement Status

Potentially Responsible Parties (PRPs) (past or present owners and operators, waste generators, and haulers) may be legally liable for investigating and remediating contamination at Superfund sites. NYSDEC and National Grid/Niagara Mohawk (NiMo), a PRP, entered into multi-site Consent Orders on December 7, 1992 (#D0-0001-9210) and on November 7, 2003 (#A4-0473-0000). These Consent Orders obligate NiMo to investigate and implement a full remedial program for 21 former MGP sites across the State, including the Site.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The RI and FS reports describe the nature and extent of the contamination at and emanating from the Site and evaluate remedial alternatives to address this contamination. The February 2010 Proposed Remedial Action Plan (PRAP) identified NYSDEC and EPA's preferred remedy and the basis for that preference. These documents were made available to the public in both the Administrative Record and information repositories maintained at the NYSDEC Region 7 Office, 615 Erie Boulevard West, Syracuse, New York; NYSDEC Central Office, 625 Broadway, Albany, New York; and Onondaga County Public Library Syracuse Branch, 447 South Salina Street, Syracuse, New York.

A notice of the commencement of the public comment period related to the preferred remedy, the public meeting date, contact information, and the availability of the above-referenced documents was published in the *Syracuse Post-Standard* on March 3, 2010. The public comment period opened on February 25, 2010. NYSDEC held a public meeting on March 18, 2010 at the NYSDEC Region 7 Office, 615 Erie Boulevard West, Syracuse, New York to present the findings of the RI, FS, and PRAP, and to answer questions from the public about the Site and the remedial alternatives under consideration. Approximately 12 people, including residents and local business people attended the public meeting. The public comment period closed on March 27, 2010.

No comments were received at the public meeting or in writing during the public comment period.

The draft PRAP was provided to the Onondaga Nation for comment, with an offer to meet to discuss such comments. The Onondaga Nation provided written comments to the NYSDEC prior to the public comment period that were incorporated into the final PRAP. The Onondaga Nation's comments and the NYSDEC's written response to these comments are included in the Administrative Record (see Appendix III).

SCOPE AND ROLE OF OPERABLE UNITS

Since Superfund sites are often complex and have multiple contamination problems and/or areas, they are frequently divided into several operable units for the purpose of managing the site-wide response actions. Section 300.5 of the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300 (NCP) defines an operable unit as "a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the site. Operable units may address geographical portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions performed over time or any actions that are concurrent but located in different parts of a site."

NYSDEC and EPA have, to date, organized the work for the Onondaga Lake NPL site into nine subsites (see Figure 4). These subsites are also considered by EPA to be operable units of the NPL site. The Site is a subsite and an operable unit of the Onondaga Lake NPL site.

Status of Other Onondaga Lake NPL Site Operable Units

The status of the subsites is discussed below.

Onondaga Lake Bottom Subsite

In July 2005, NYSDEC and EPA issued a ROD for the Onondaga Lake Bottom subsite of the Onondaga Lake NPL site. The selected remedy includes dredging an estimated 2.65 million cy of contaminated sediments and isolation capping of an estimated 425 acres in the littoral zone (water depths ranging from 0 to 30 ft), thin-layer capping of an estimated 154 acres in the profundal zone (water depths exceeding 30 ft), an oxygenation pilot study (of the water near the lake bottom) which will be followed by full-scale oxygenation if supported by the pilot study, and monitored natural recovery in the profundal zone. It is anticipated that the most highly contaminated materials would be treated and/or disposed of off-site. The balance of the dredged sediment would be placed in the Sediment Consolidation Area (SCA) at Wastebed 13. Wastewater generated by the dredging/sediment handling processes as a result of dewatering of the sediments at the SCA would be treated prior to being discharged back to the lake. An Explanation of Significant Differences which describes a change to a portion of the remedy required by the Lake Bottom subsite ROD in the southwest portion of the lake was issued by NYSDEC and EPA in December 2006. The change was necessary to ensure the stability of the adjacent causeway and the adjacent area which includes a portion of I-690, and was supported by recent, more extensive sampling of the area which indicates that the pure chemical contamination is significantly less extensive in this area than estimated in the Lake Bottom subsite ROD. In January 2007, Honeywell entered into a consent decree with the State of New York whereby Honeywell committed to implement the remedy at the Onondaga Lake Bottom subsite. Extensive pre-design investigations commenced in September 2005 and are ongoing, along with remedial design activities (Parsons, 2008c). Dredging in the lake is scheduled to begin in May 2012.

LCP Bridge Street Subsite

In September 2000, a ROD was issued for the LCP Bridge Street subsite of the Onondaga Lake NPL site. In March 2002, Honeywell entered into an administrative consent order with NYSDEC (D7-0001-00-12) whereby Honeywell committed to implement the remedy at the LCP Bridge Street subsite. The remediation of the LCP Bridge Street subsite was substantially completed in 2007. Remedial construction included removal of contaminated sediments from the West Flume, on-site ditches, and wetlands; restoration of wetlands; installation of a low-permeability cutoff wall around the site; installation of an interim low-permeability cap[1]; and capture of contaminated groundwater inside the cutoff wall. Remediation of the LCP Bridge Street subsite has controlled discharges of mercury and other contaminants to the West Flume, some of which ultimately migrated to Onondaga Lake through Geddes Brook and Ninemile Creek. Maintenance and monitoring activities are ongoing.

Ley Creek PCB Dredgings

The Ley Creek PCB Dredgings subsite ROD was issued in 1997 and remedial construction activities were completed in 2001.

Semet Residue Ponds

The Semet Residue Ponds subsite ROD was issued in 2002. Construction activities associated with a portion (lakeshore barrier wall/collection system for the shallow and intermediate zones) of the groundwater remedy component were completed in 2007. Design of the remaining portion (groundwater collection system adjacent to Tributary 5A) is underway. NYSDEC and EPA are evaluating a potential modification to the portion of the remedy that addresses the pond residues.

Town of Salina Landfill

The Town of Salina Landfill subsite ROD was issued in 2007. The ROD called for the capping of two individual landfilled areas. During the ongoing design, it was determined that one of the landfills does not contain significant hazardous waste. Therefore, NYSDEC anticipates releasing a Proposed Plan in the near future calling for the excavation and consolidation of one of the landfilled areas on the other landfilled area prior to capping.

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[1] A temporary cap was installed. It will be replaced with a final cap following the placement of material from the remediation of Geddes Brook and possibly Ninemile Creek.

Geddes Brook/Ninemile Creek

RODs for two portions of the Geddes Brook/Ninemile Creek site were signed in April and October 2009. The selected remedies include the dredging/excavation and removal of an estimated 120,000 cy of contaminated channel sediments and floodplain soils/sediments over approximately 30 acres. Depending on the location, clean materials, consisting of a habitat layer and, if needed, backfill, will be placed in the dredged/excavated areas. Contaminated sediments and soils removed from the stream and floodplains will be disposed of at either the LCP Bridge Street subsite containment system, which was designed and constructed pursuant to the requirements of a September 2000 ROD, or the SCA, which will be constructed at Wastebed 13 as part of the remediation of the Onondaga Lake Bottom subsite pursuant to the requirements of the July 2005 ROD.

Other Subsites and Potential Subsites

RI/FSs are presently being performed at Lower Ley Creek; General Motors: Inland Fisher Guide and Ley Creek Deferred Media, Wastebed B/Harbor Brook, Willis Avenue, and Wastebeds 1-8. It is anticipated that the RI/FSs for these sites will be completed in the next few years.

SUMMARY OF SITE CHARACTERISTICS

Results of the Remedial Investigation

The RI further characterized Site geology/hydrogeology and the extent of MGP-related impacts to the soil and groundwater. A baseline human health risk assessment and screening level ecological risk assessment were also completed as part of the RI.

To determine the extent of the contamination, the RI utilized knowledge of the gas manufacturing process, historic plans and information gained through previous preliminary investigations (including the PSA/IRM) to target probable areas of the Site where MGP wastes could have been generated disposed or released. From that information, areas of the Site were tested for the presence of MGP wastes.

The RI, which was completed in October 2006, included:

- Installation of 64 groundwater monitoring wells;

- Collection of 385 subsurface soil samples from 50 soil borings, 2 test pits, 16 monitoring wells, and 14 bottom and 20 sidewall IRM verification soil sampling locations which were analyzed for organic compounds associated with former MGP residues particularly BTEX, PAHs, metals, cyanide, pesticides, and PCBs;

- Collection of several rounds of groundwater samples and analysis for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and total cyanide;

- Collection of sediment samples from seven off-Site near-shore sampling locations in Onondaga Lake;

- A survey of public and private water supply wells in the area around the Site; and

- A soil vapor investigation to evaluate the presence, concentration and distribution of MGP- and non-MGP-related VOCs in on-Site soil vapor and to evaluate the potential for vapor intrusion into existing on-Site buildings.

Standards, Criteria and Guidance

To determine whether the soil and groundwater on and off-Site contain contamination at levels of concern, data from the RI were compared to the following Standards, Criteria and Guidance (SCGs):

Groundwater, drinking water, and surface water SCGs are based on NYSDEC's "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

Soil Cleanup Objectives (SCOs) are based on NYSDEC's 6NYCRR Subpart 375-6.8 Remedial Program Soil Cleanup Objectives.

Concentrations of VOCs in air were evaluated using the air guidelines provided in NYSDOH's guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006.

Geology

Subsurface investigations have identified four principle geologic units at the Site: fill (the 2 to 5 foot deep surficial unit, which varies in composition and texture throughout the Site and consists of poorly sorted clay, sand, silt, gravel, brick, wood, ash, cobbles, and chunks of concrete); Solvay process waste (2 to 12 feet thick white to pink or gray in color and consists predominantly of silt and fine sand sized material with a chalky consistency; sand unit (30 to 50 feet native silty fine to coarse sand gray to brown with varying amounts of shells. The silt content increases significantly with depth); and silt/clay unit (in the few borings that extended through the sand unit, a silt and clay unit was encountered below the sand. The surface of this unit is generally encountered between 40 and greater than 50 feet bgs. This unit "fines" downward in that the clay content of the unit generally increases with increased depth however the transition to an increased clay content is variable across the Site.) Based on several geotechnical borings completed as part of the mid-1970s expansion of the Metro STP (which were generally completed to depths of 230 feet to 270 feet bgs), the depth at which clay was first observed (identified as "little clay" or "some clay") was variable, and was as shallow as 35 feet bgs at a location in the western portion of the Site and as deep as 130 feet bgs at a location in the eastern portion of the Site.

Hydrogeology

The major hydrologic features near the Site are the Onondaga Lake and the Barge Canal, which discharges into the lake. The Barge Canal receives its flow from Onondaga Creek, which drains highly developed, heavily commercialized and industrialized landscapes as it passes south to north through the city. Onondaga Creek, like the Barge Canal, is classified by the NYSDEC as a Class C water body.

As identified during the previous investigations, saturated conditions are first encountered within the fill or Solvay waste layer. The water-level data indicate that the water table beneath the Site generally occurs at a depth of approximately 5 to 10 feet bgs. Groundwater and surface water elevation data indicate that the horizontal direction of groundwater flow is from the southeastern corner of the Site to the northeast and to the northwest. The flow directions diverge along a groundwater divide that trends northwest-southeast through the Site. These elevation data also indicate that the Barge Canal in the vicinity of the Site acts as a gaining stream, meaning that groundwater flows from beneath the Site into the canal. Across most of the Site, the elevation of the potentiometric surface for the sand unit was generally lower than the water table, indicating a slight downward vertical component of flow across the Solvay waste layer to the underlying sand unit. In general, the groundwater levels at each well cluster were higher than the adjacent surface water elevation indicating a component of groundwater flow from the fill/Solvay waste layer and upper sand unit to the Barge Canal. Within the sand unit, an upward component of flow is indicated by the presence of an upward vertical gradient

NATURE AND EXTENT OF CONTAMINATION

This section describes the findings of the investigation for all environmental media that were investigated.

As described in the RI report, numerous soil and groundwater samples were collected to characterize the nature and extent of contamination. The main categories of contaminants that exceed their SCGs are VOCs and SVOCs. Figure 7 illustrates the approximate extent of MGP-related source material and groundwater impacts.

Coal tar is a reddish-brown to black oily liquid by-product which formed as a condensate as the gas cooled and which does not readily dissolve in water. Materials such as coal tar are commonly referred to as NAPLs. The terms NAPL and coal tar are used interchangeably in this document. Although most coal tars are slightly denser than water, the difference in density is minimal. Consequently, this tar can either float or sink when in contact with water. Coal tar was found on-Site during the RI. Tars typically contain high levels of PAH compounds which often approach percent levels. Tars also typically exceed SCGs for BTEX by several orders of magnitude. In certain tar samples, enough benzene may be present to require the material to be managed as hazardous waste.

Waste Materials

The RI data indicate that coal tar is the major waste present at the Site. Tars generated at the MGP were disposed, spilled or leaked from the former relief holders and/or the tar and ammonia tanks and associated piping and possibly other structures, at various locations throughout the Site.

Visual observations of sheens or NAPL in the subsurface were identified within thin lenses located in the lower portion of the Solvay waste layer and upper part of the sand unit, generally 8 to 28 feet bgs. The NAPL observed was generally brownish-black in color. Figure 3 depicts the locations where NAPL was observed within the subsurface. The greatest NAPL impacts observed were in several soil borings and monitoring well borings, primarily located in the eastern portion of the Site. Soil and NAPL at several of these locations were removed during the previously-described IRM. Remaining soil exhibiting NAPL was generally found to the east and northeast of the soil/groundwater removal IRM excavation area, near MW-7, MW-8 and SB-50 (see Figure 5 for specific sampling locations).

Dense non-aqueous phase liquid (DNAPL), oil-like/tar-like liquid heavier than water, was previously identified in two wells located in the eastern portion of the Site (MW-7D and MW-8D). The DNAPL measured in these wells was approximately 1.6 to 1.9 feet thick. Monitoring well MW-7D was damaged during the soil/groundwater removal IRM and replaced during the RI. DNAPL was not encountered in the MW-7D replacement well in the 9 monitoring events completed since the well was installed. DNAPL was removed from well MW-8D in May 2006 and has not been identified in the well in the 5 monitoring events thereafter. While NAPL may no longer be accumulating in these wells, it is still dissolving into the groundwater.

Historic filling that preceded the MGP activities disposed large volumes of Solvay Process waste to create land in low-lying areas. This Solvay waste ranges in thickness from 2 to 12 feet thick, and was identified in each soil boring and nearly every monitoring well boring completed at the Site. Solvay waste is primarily composed of calcium chloride, which increases salinity and raises the pH of groundwater present within these fill areas.

Surface Soil

The surface soils, generally sampled at 0 to 2 inches bgs and most likely to be contacted during the use of the Site, are not significantly impacted by the former MGP operation. Composite surface soil samples were collected from five on-Site and four off-Site sample locations, and concentrations identified were less than, or generally consistent with, the unrestricted use SCOs presented in 6 NYCRR Part 375-6.8.

Subsurface Soil

The analytical results for subsurface and saturated zone soil samples (see Table 1) confirmed the general understanding of the nature and extent of impacts based on the visual observation of NAPL. The occurrence of soils exceeding NYSDEC's recommended subsurface soil cleanup level of 500 milligrams per kilogram (mg/kg) for total PAHs, as well as the distribution of NAPL, was generally found to the east and northeast of the soil/groundwater removal IRM excavation area, near MW-7, MW-8 and SB-50 (see Figure 3 for the extent of NAPL and Figure 5 for specific sampling locations). These soils were found at depths generally 8 to 28 feet bgs. The analytical results indicate that VOCs including BTEX and SVOCs (specifically PAHs) are the contaminants of concern.

The subsurface soil contaminant concentrations for total VOCs range from 0.0022 mg/kg to 370 mg/kg. The elevated VOCs are associated with the occurrence of NAPL. Total SVOCs range from 0.025 mg/kg to 18,000 mg/kg, and consist almost entirely of PAHs. This includes benzene levels as high as 30 mg/kg for the VOCs and naphthalene as high as 2,800 mg/kg for SVOCs in sub-surface soils.

Evidence of coal tar NAPL, in the form of sheens and thin lenses and consisting predominantly of PAHs and BTEX, was observed in the subsurface soil, located primarily in the eastern portion of the Site.

Groundwater

Subsurface soil contamination has negatively impacted the groundwater in the unconsolidated geologic units beneath the Site. The impacted soil has been an ongoing source of contamination resulting in the downgradient migration of contamination into the groundwater. Dissolved groundwater contamination from the Site has historically and is potentially currently migrating to the barge canal.

Groundwater at the Site has been impacted by dissolved-phase BTEX compounds, PAHs and cyanide related to MGP residuals in the subsurface soil at the Site. The nature and extent of groundwater contamination at the Site is shown on Figure 6. During the RI, groundwater was observed at depths ranging from 5-10 feet bgs. The shallow groundwater is found within the fill and Solvay units, which range in thickness from 2-5 feet and 2-12 feet, respectively. The highest BTEX and PAH concentrations remaining in this unit are generally in the northeast portion of the Site, near MW-11S, MW-12S, MW-23S, and MW-24S. The highest BTEX and PAH concentrations overall were identified in the sand unit, which ranges in thickness from 30 - 50 feet and is beneath the fill and Solvay units. The horizontal direction of groundwater flow is from the southeastern corner of the Site to the northeast and the northwest. The flow directions diverge along a groundwater divide that trends northwest-southeast through the Site from the area of well MW-6 to the area of well MW-22.

Total VOC concentrations in the groundwater range from not detected to 14,000 micrograms per liter (μg/l), which includes individual benzene concentrations as high as 2,400 μg/l. Total SVOC concentrations in the groundwater range from not detected to 20,000 μg/l, which includes naphthalene concentrations as high as 17,000 μg/l.

Total cyanide groundwater concentrations were found as high as 1,650 μg/l in the vicinity of the former MGP structures. Historic MGP structure information indicates that purifying boxes were located in close proximity to the current county maintenance building. Groundwater monitoring data suggests the potential for a source area of purifier waste based on elevated levels of cyanide in downgradient monitoring well clusters MW12, MW23, MW31 and MW32. Arsenic and thallium were also detected in the groundwater.

Groundwater is also impacted by the Solvay waste that was placed at the Site before the MGP was constructed. The primary Solvay waste product, calcium chloride, has increased the salinity of groundwater beneath the Site, particularly in deeper groundwater. Salinity, as represented by chloride concentration, ranges from 0.017 to 7.04 nanograms/liter (ng/l) in shallow groundwater, and from 0.083 to 95 ng/l in deep groundwater. The ambient water quality standard for chloride in fresh groundwater is 0.25 ng/l. Groundwater in both shallow and deep wells is also highly alkaline, with pH exceeding 12 in several locations.

Groundwater geochemical data was collected during the RI to evaluate the degree of microbial activity within the contaminated area. The presence of reducing conditions, in which naturally-occurring microbes use electron acceptors from various compounds to degrade contaminants, is a strong indicator of natural microbial activity. In the fill/Solvay unit, nitrate and small amounts of nitrite are present, indicating that nitrate reduction is occurring, but is not complete. In the sand unit, both nitrate and nitrite are below the laboratory detection limit, indicating that nitrate has been exhausted as an electron acceptor. Similar patterns of reducing conditions were measured for other geochemical indicators such as iron, manganese, sulfate, sulfite and methane. These data indicate that the fill and Solvay units are mildly reducing environments, while the underlying sand unit is strongly reducing, with a corresponding level of microbial degradation activity.

Surface Water

No Site-related surface water contamination was identified during the RI.

Sediments

As a part of the PSA field investigation, sediment samples were collected from 7 nearshore sampling locations in Onondaga Lake west of the Site. Chemicals detected in the samples included PAHs and dichlorobenzenes, which have been found elsewhere in Onondaga Lake. In addition, certain metals were found that were not detected in groundwater samples collected from monitoring wells along Onondaga Lake or at the Site.

Sediment samples were also collected by the U.S. Army Corps of Engineers in 1994 from several sampling locations in the Barge Canal. Organic compounds, metals and total petroleum hydrocarbons were identified at each sediment sampling location. Based on the concentrations and distribution of chemical contaminants, which were typical of upstream/background conditions, no Site-related sediment contamination of concern was identified in the Barge Canal during the RI.

Soil Gas

In May 2008, a soil vapor investigation was undertaken to evaluate the potential presence, concentration, and distribution of MGP-related VOCs and non-MGP related VOCs in on-Site soil vapor and to evaluate the potential for vapor intrusion into existing on-Site buildings. A soil vapor investigation was performed in the area of the county maintenance building within the footprint of the former MGP facility. The objective of the investigation was to determine whether actions are needed to address exposures to Site-related contaminants, which may move from contaminated groundwater into the indoor air of a building through a process referred to as soil vapor intrusion.

One or more VOC contaminants were identified in the soil vapor samples collected at each sampling location. Some of the VOCs identified in the soil vapor samples were unrelated to or not necessarily related to former MGP operations.

The sample results indicate the presence of BTEX and other VOCs at low levels in soil vapor. These compounds are typically associated with MGP sites, but are also commonly found in products stored in the maintenance facility. The NYSDEC and NYSDOH reviewed the sample results for this structure and determined that no further actions for soil vapor intrusion are needed at this time.

CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

The State of New York, Onondaga County, and the City of Syracuse have jointly sponsored the preparation of a land-use master plan to guide future development of the Onondaga Lake area (Syracuse-Onondaga County Planning Agency, 1998).The primary objective of land-use planning efforts is to enhance the quality of the Onondaga Lake area for recreational and commercial uses. Anticipated recreational uses of the lake include fishing without consumption restrictions and swimming.

Land Use

In general, the southeast upland of the lake, which includes the Site area, is primarily commercial and industrial. Land around much of the rest of the lake is recreational, providing hiking and biking trails, picnicing, sports, and other recreational activities.

The Site is located in an industrial area at the southeast end of Onondaga Lake. The MGP was located on the northern portion of property which is currently occupied by the Metro STP. Much of the property is covered with structures associated with the treatment plant, including clarifiers, aeration tanks and an ammonia and phosphorus removal facility. The remainder of the Site is primarily covered by driveways, paved parking lots, and a county maintenance building.

Surface Water Use

The southern third of Onondaga Lake and the area at the mouth of the New York State Barge Canal are classified as Class C water[4]. Onondaga Creek is also a Class C stream where it discharges into the Barge Canal. The Barge Canal upstream of the Site has been affected by several former petroleum bulk storage facilities and by combined sewer overflow discharges to Onondaga Creek.

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[4] Best usage is defined as "fishing (these waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes" [6 NYCRR Part 701. 8]).

While fishing occurs, NYSDOH has a specific, restrictive consumption advisory for Onondaga Lake including its tributaries which warns against eating walleye (*Stizostedion vitreum*), largemouth bass (*Micropterus salmoides*), and smallmouth bass (*Micropterus dolomieui*) larger than 15 inches, with consumption of all other species limited to no more than once per month (NYSDOH, 2008). The specific advisory also stipulates that infants, children under 15, and women of childbearing age should eat no fish from the lake and its tributaries. The more general, statewide advisory for the state's fresh waters advises that consumption be limited to no more than one meal per week. Onondaga Lake and the associated tributaries do not serve as potable-water sources (Syracuse Department of Water, 2000).

SUMMARY OF SITE RISKS

Based upon the results of the RI, a baseline risk assessment was conducted to estimate the risks associated with current and future property conditions. A baseline risk assessment is an analysis of the potential adverse human health effects caused by hazardous-substance exposure in the absence of any actions to control or mitigate these under current and reasonably anticipated future land uses.

The human health estimates summarized below are based on current reasonable maximum exposure scenarios and were developed by taking into account various conservative estimates about the frequency and duration of an individual's exposure to the contaminants of concern, as well as the toxicity of these contaminants.

While a screening of ecological considerations lead to the conclusion that property conditions do not necessitate a quantitative ecological risk assessment, a qualitative discussion is included below.

Exposure Assessment

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 human exposure pathways can be found in Section 7.0 of the Final Supplemental Remedial Investigation Report (October 2006) and the Human Health Risk Assessment Report (September 2009). These documents are available for review at the document repositories.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a Site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or dermal contact). The receptor population is the people who are currently, or may potentially be in the future, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

No completed exposure pathways currently exist at the site for groundwater and soils. The area is served by public water, public access to the site is limited and the NYSDOH has determined that no actions are currently necessary to address exposures to site-related contaminants due to soil vapor intrusion. The only current exposure pathway that is complete is for recreational wading in the sediments. However, due to the widespread presence of PAHs in Onondaga Lake, it is not clear if this exposure is site-related.

In the future, potential exposures exist for construction and utility workers performing intrusive work at the site, through dermal contact with or incidental ingestion of contaminated subsurface soils. The majority of the Site is paved and public access is limited by fencing; therefore, exposure to contaminated surface soil is not likely.

Since groundwater is classified by the State as a potable drinking water, this pathway is also evaluated as a complete exposure under a hypothetical future use, although due to natural saline conditions, it is highly unlikely that groundwater would be used for this purpose.

Human Health Risk Assessment

A baseline risk assessment was conducted to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land, groundwater, and sediment use. The baseline risk assessment includes a human health risk assessment (HHRA) and an environmental (ecological) risk assessment.

The cancer risk and non-cancer health hazard estimates in the HHRA are based on current reasonable maximum exposure scenarios and were developed by taking into account various health protective estimates about the frequency and duration of an individual's exposure to chemicals selected as chemicals of potential concern (COPCs), as well as the toxicity of these contaminants. Cancer risks and non-cancer health hazard index values (HIs) are summarized below.

The Site is currently occupied by industrial facilities, and future land use is expected to remain the same. The baseline risk assessment began by selecting COPCs in the various media that would be representative of Site risks. Based on the nature and extent of contamination, the HHRA focused on exposure to sediments, subsurface soils, and groundwater. The chemicals of concern are primarily PAHs (specifically benzo(a)pyrene), benzene, naphthalene, and arsenic).

The baseline risk assessment evaluated health effects that could result from exposure though direct contact with contaminated media. Based on the current and anticipated future use, the risk assessment focused on a variety of possible receptors, including current/future adult, adolescent, and child waders with access to the sediments, and future construction and utility workers with exposure to subsurface soils and shallow groundwater. Although the area is serviced by public water, since groundwater is designated by the State as a potable water supply, groundwater was evaluated as a potential future source of drinking water to adult and child residents.

Summary of Risks to Current/Future Waders: Cancer risks estimated for adults, adolescents, and children exposed to sediments are 4 x 10^{-6}, 2 x 10^{-4}, and 4 x 10^{-5}, respectively, with PAHs, primarily benzo(a)pyrene as the risk driver. Due to a lack of noncarinogenic toxicity values for PAHs, noncancer hazard index values could not be calculated.

Summary of Risks to Future Construction and Utility Workers: Cancer risks estimated for future construction and utility workers exposed to subsurface soils 2 x 10^{-5} and 8 x 10^{-5}, respectively, with PAHs, primarily benzo(a)pyrene as the risk driver. Due to a lack of noncarinogenic toxicity values for PAHs, noncancer hazard index values could not be calculated.

Cancer risks and noncancer hazards were estimated for exposure to groundwater contacted through intrusive activities. For the construction worker and the utility worker, the cancer risks were 7 x 10^{-5} and 4 x 10^{-4}, while the noncancer hazard index values are 70 and 18, respectively. The risk drivers are PAHs, specifically benzo(a)pyrene, benzene, naphthalene, and arsenic.

Summary of Risks to Residents: Cancer risks and non-cancer health hazards were evaluated for adult and child residents hypothetically exposed to groundwater used as drinking water in the future. The excess lifetime cancer risk estimate is 5 x 10^{-3} and 3 x 10^{-3}, respectively, while the noncancer hazard index values are 150 and 300, respectively. The risk drivers are PAHs, specifically benzo(a)pyrene, benzene, naphthalene, arsenic and thallium.

These cancer risks and non-cancer health hazards indicate that there is significant potential risk to potentially exposed populations from direct exposure to sediment, subsurface soils, and groundwater. For these receptors, exposure to these media results in either an excess lifetime cancer risk that exceeds EPA's target risk range of 10^{-4} to 10^{-6} or an HI above the acceptable level of 1, or both. The chemicals in sediment, subsurface soil, and groundwater that contribute most significantly to the cancer risk and non-cancer hazard are PAHs, specifically benzo(a)pyrene, benzene, naphthalene, and arsenic. It is the lead agency's current judgment that the selected remedy is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

Tables 2 thru 11 included in Appendix II provide a summary of the HHRA data.

Ecological Risk Assessment

A four-step process is utilized for assessing Site-related ecological risks for a reasonable maximum exposure scenario: Problem Formulation -- a qualitative evaluation of contaminant release, migration, and fate; identification of contaminants of concern, receptors, exposure pathways, and known ecological effects of the contaminants; and selection of endpoints for further study. Exposure Assessment -- a quantitative evaluation of contaminant release, migration, and fate; characterization of exposure pathways and receptors; and measurement or estimation of exposure point concentrations. Ecological Effects Assessment -- literature reviews, field studies, and toxicity tests, linking contaminant concentrations to effects on ecological receptors. Risk Characterization -- measurement or estimation of both current and future adverse effects.

An ecological risk characterization was performed for the Site in 2003. The Site is located in an urban setting, including industrial and commercial properties which are associated with large paved parking lots.

Surface soil was not evaluated in the screening level ecological risk assessment because impacted surface soils were removed and/or built over as part of the expansion of Metro STP. Further, suitable habitat is absent from the area encompassing the Site. Future land use of this area is likely to remain under industrial use for the foreseeable future. Due to the industrial nature of this Site there is a lack of adequate habitat and, thus, there are no complete terrestrial exposure pathways to ecological receptors.

Basis for Action

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

The documents that form the basis of NYSDEC and EPA's selection of a remedy are included in the Administrative Record Index (see Appendix III) and include the Hiawatha Boulevard Former MGP Site RI Report (dated October 2006), the Hiawatha Boulevard Former MGP Subsite HHRA (dated November 2009), the Hiawatha Boulevard Former MGP Site FS Report (dated October 2009), the Proposed Remedial Action Plan (dated February 2010), the comments on the above documents received from the public during the comment period, and this ROD (which includes the Responsiveness Summary).

REMEDIAL ACTION OBJECTIVES AND REMEDIAL GOALS

Remedial action objectives are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), to-be-considered guidance (TBCs), and site-specific risk-based levels.

The following remedial action objectives (RAOs) were established for the Site:

RAO 1: Prevent ingestion/direct contact with contaminated subsurface soil;

RAO 2: Prevent migration of contaminants that would result in groundwater or surface water contamination;

RAO 3: Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards;

RAO 4: Prevent contact with contaminated groundwater; and

RAO 5: Prevent discharge of contaminated groundwater to surface water.

In order to achieve these RAOs, remediation goals (RGs) were established to provide additional information with which remedial alternatives can be developed and selected. The Site contains two primary media that have been impacted by COPCs: soils and groundwater. The following two RGs have been developed to address each of the affected media:

RG 1: Contain and control, to the extent practicable, the amount of COPCs in Site soils that come in contact with groundwater.

RG 2: Restore groundwater quality to levels which meet state and federal drinking-water standards.

SUMMARY OF REMEDIAL ALTERNATIVES

General

The selected remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies and resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Site were identified, screened and evaluated in the FS report, which is available at the document repositories established for this Site.

A summary of the remedial alternatives that were considered for this Site are discussed below. The present-worth cost represents the amount of money invested in the current year that would be sufficient to cover all present and future remedial action and operation, maintenance, and monitoring costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved at that time.

CERCLA §121(b)(1), 42 U.S.C. §9621(b)(1), mandates that remedial actions must be protective of human health and the environment, comply with ARARs, be cost-effective, and utilize permanent solutions, alternative treatment technologies, and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants at a site. CERCLA §121(d), 42 U.S.C. §9621(d), further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants, which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA §121(d)(4), 42 U.S.C. §9621(d)(4) (see the nine evaluation criteria listed below in the "Comparative Analysis of Remedial Alternatives" section of this ROD).

The PRAP included Alternative SM2, institutional controls, as an alternative to address the soil contamination. Since this alternative did not address RAO 2 (prevent migration of contaminants that would result in groundwater or surface water contamination), it has been eliminated from further consideration.

Groundwater extraction and treatment to recover dissolved phase constituents from the groundwater was considered, but for the forgoing reasons, it was screened out. Since the complete dissolution of NAPL would take many years (despite extensive dewatering performed as part of the 2001-2003 IRM, post-IRM groundwater monitoring indicated that there was little to no decrease in groundwater concentrations hydraulically downgradient from the excavation area), groundwater extraction and treatment would be anticipated to have limited effectiveness in reducing the concentrations of constituents in groundwater or reducing the size of the impacted groundwater area. In addition, due to the close proximity of the Site to surface water bodies, to prevent extremely high groundwater extraction rates, a containment barrier would need to be installed. However, due to the potentially excessive depth of a suitable lower hydraulic conductivity layer unit for the installation of such a barrier, its installation would be extremely costly.

The following potential remedies were considered to address the contaminated source material in soils and groundwater through various remedial methods.

Soil Alternatives

Alternative SM1: No Further Action

This alternative would involve no further action beyond the extensive removal activities performed as part of the soil/groundwater removal IRM, in which 110,000 tons of soil were excavated and transported for off-Site disposal and 283 million gallons of water were pumped and treated on-Site prior to discharge to the Metro STP. Alternative SM1 serves as the baseline for comparison of the overall effectiveness of the other remedial alternatives. The Site would be allowed to remain in its current condition. The existing cover material (i.e., grass/vegetation, asphalt, and Metro STP structures) and fencing on the former MGP property would be maintained only as associated with the operation of the STP. This alternative could be implemented immediately and there are no costs associated with this alternative.

Because this alternative would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the site be reviewed at least once every five years. If justified by the review, remedial actions may be implemented to remove, treat, or contain the contaminated soils.

Since Alternative SM2: Institutional Controls does not meet the remedial action objectives, it was eliminated.

Alternative SM3 – In-Situ Solidification and Institutional Controls

This alternative would involve treating contaminated soil from the northeastern portion of the Site where NAPL has been identified in lenses and where PAHs were identified at concentrations greater than 500 mg/kg using an in-situ solidification (ISS) process. The approximate extent of the area that would be treated by ISS under this alternative is shown on Figure 8. ISS of the MGP-impacted zone would be performed to depths of approximately 22 to 24 feet below grade within an approximate 20,600 square foot area.

ISS would be performed by mixing a fluid cement grout into a column of soil without excavating or removing the soil. ISS treatment would limit potential future impacts from soil to groundwater by: (1) reducing the leaching/mobility of contaminants in soil; (2) minimizing the amount of free liquids in the soil pore space; and (3) reducing the hydraulic conductivity of the soil. With less soil pore space and reduced conductivity, the potential mobility of pore-filling liquids (water, NAPL) would be reduced in the treated area. There are several methods for implementing ISS, including large diameter auger mixing and jet grouting.

Spoils consisting of a mixture of soil, groundwater, and grout would be generated by the ISS process. These spoils would be excavated, stockpiled and sampled prior to transportation for off-Site disposal.

During the design phase, bench- and pilot-scale treatability studies would be performed to evaluate the effectiveness of various cement-bentonite mixtures (i.e., soil stabilization mixtures) at reducing the leachability and permeability of the impacted soil, including the Solvay waste, at the Site. Solidification mixtures would be evaluated for compatibility with the contaminants of concern and tested for density, permeability, strength, and leachability of VOCs and SVOCs.

As an initial step in full-scale application of ISS, the surface cover material (asphalt pavement) and upper few feet of soil would be removed, characterized, and either transported for off-Site disposal or stockpiled for re-use as backfill on the Site. The soil removal would allow room for the increase in soil volume that would occur when stabilizing agents are added, and for placement of backfill and replacement of clean cover materials. Specific design details would be addressed as part of the remedial design. Utilities may be relocated and obstacles would be removed prior to ISS implementation. Utilities and obstacles that cannot be removed would be surrounded by soil stabilization mixtures through jet grouting. Targeted areas that are restricted by significant underground utilities would be individually jet grouted, or would be surrounded by the remainder of the stabilized area, which would serve as a containment barrier. The solidified area would be covered by backfilled soils to a sufficient depth to prevent damage to the solidified material by cycles of freezing and thawing.

Due to elevated levels of cyanide in the groundwater at the northeastern corner of the Site, further investigation, delineation and removal (to the extent feasible) of suspected purifier waste source areas would be conducted.

A foam spray or other vapor control measures would be used as necessary to suppress odors and volatile organic vapors originating from the initial excavation and the solidification process. A Community Air Monitoring Plan (CAMP) would be followed throughout remediation activities to ensure that airborne particulate and volatile organic vapor concentrations surrounding the excavation area are acceptable.

This alternative would also include institutional controls to prevent exposure to subsurface soils that exceed the SCOs for industrial use. Specifically, the institutional controls would limit the disturbance of the ground cover materials and place health and safety/excavation management requirements on subsurface activities. The institutional controls would include a land use restriction in the form of an environmental easement. This alternative would also include the development of a Site Management Plan (SMP). The SMP would: (1) identify known locations of MGP-impacted soil at the Site; (2) establish appropriate controls for future disturbances of Site soil; and (3) set forth the inspection and maintenance activities for the perimeter fencing and vegetation/cover materials.

The land use restriction would: (1) restrict future use of the Site to industrial activities; (2) notify future property owners of the presence of MGP-related contaminants in soil at the Site; and (3) notify future property owners of the existence of the SMP. The SMP would be a means to address potential future soil excavation, including a possible future expansion to the Metro STP. The SMP would provide for advance notification of any proposed excavation, including the excavation limits, expected environmental conditions and schedule. The SMP would also include an excavation work plan that would detail the procedures for any soil removal (e.g., waste characterization sampling, verification sampling, excavation sidewall support, off-Site transportation and disposal, dewatering, backfilling, etc.). Costs for potential excavations pursuant to the SMP are not included in the cost estimate for this alternative.

Long-term monitoring would be performed to evaluate the expected reductions in groundwater contaminant concentrations downgradient of the ISS treatment areas. Cores would be periodically collected from the solidified material to assess the integrity of the material.

This alternative would require approximately one year to implement, at which time the remedial goals for soil would be met.

Because this alternative would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the Site be reviewed at least once every five years.

If justified by the review, remedial actions may be implemented to remove, treat, or contain the contaminated soils.

Present-Worth Cost:	$6,730,000
Capital Cost:	$6,490,000
Annual Costs:	$16,000

Alternative SM4 - Focused Soil Excavation and Institutional Controls

This alternative would involve the removal of contaminated soil from the northeastern portion of the Site where NAPL has been identified in lenses and where PAHs were identified at concentrations greater than 500 mg/kg. Soil would be removed from an area approximately 20,600 square feet to a depth of 22 to 24 feet, as shown on Figure 8.

The estimated volume of soil that would be removed is 17,410 cy. Prior to excavation, pre-excavation soil sampling and waste characterization sampling would be conducted. A temporary sheet pile wall would be installed around the perimeter of the proposed excavation area to stabilize excavation sidewalls (and to comply with Occupational Safety and Health Administration requirements), control groundwater and permit soil removal to the targeted depths. Underground utilities in the area (including natural gas and water lines) would need to be temporarily relocated during installation of the sheet pile wall.

The majority of the soil removed under this alternative would be from beneath the water table. Therefore it would be necessary to dewater the excavation. A temporary on-Site wastewater treatment system would provide pre-treatment of the groundwater recovered during de-watering, and the treated effluent would be discharged to the Metro STP. Details concerning the water treatment, handling, and discharge would be determined during remedial design.

Due to space constraints at the Site, soil removed from the excavation would be direct-loaded for off-Site disposal to the extent possible. Alternatively, the soil would be stockpiled in a lined material staging area (or portion of the excavation area) for stabilization, if needed, prior to off-Site disposal. Upon reaching target depths, verification soil samples would be collected from the bottom of the excavation for visual characterization and/or laboratory analysis. Following receipt of results indicating that the cleanup objectives have been achieved, the excavated areas would be backfilled, compacted and restored to grade. The paved parking lots and driveways in the area would then be restored.

Due to elevated levels of cyanide in groundwater at the northeastern corner of the Site, further investigation, delineation and removal (to the extent feasible) of suspected purifier waste source areas would be conducted.

A foam spray or other vapor control measures would be used to suppress odors and volatile organic vapors originating from the excavation and the excavated soil, as needed. A CAMP would be followed throughout remediation activities to ensure that airborne particulate and volatile organic vapor concentrations surrounding the excavation area are acceptable.

This alternative would also include the same institutional controls and SMP development provided for under Alternative SM3.

This alternative would require approximately one year to implement, at which time the remedial goals for soil would be met.

Because this alternative would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the Site be reviewed at least once every five years. If justified by the review, remedial actions may be implemented to remove, treat, or contain the contaminated soils.

Present-Worth Cost:	$18,800,000
Capital Cost:	$18,500,000
Annual Costs:	$16,000

Alternative SM5 - Soil Excavation and Institutional Controls

This alternative would involve the removal of contaminated soil from the northeastern portion of the Site where NAPL has been identified in lenses and where PAHs were identified at concentrations greater than 500 mg/kg. This alternative would also involve the excavation of soils that have contaminants at concentrations exceeding the SCOs for industrial use.

Under this alternative, soil would be removed from within an estimated 85,000 square foot area, extending to depths ranging from approximately 5 to 30 feet (see Figure 9). The volume of soil that would be removed under this alternative would be approximately 60,900 cy. Although soil under a portion of the Main Building Complex contains contamination that exceeds the industrial use SCOs, that soil is not accessible and would not be excavated under this alternative.

This alternative would involve the same elements included under Alternative SM4, including pre-excavation soil sampling, waste characterization sampling, utility relocation, a pre-design test boring program, installation of excavation support, excavation, air monitoring/vapor control, off-Site transportation and disposal, excavation de-watering and water treatment, backfilling, and restoration. However, the excavation under this alternative would cover a larger area and extend to greater depths than under Alternative SM4. As shown on Figure 9, the excavation area for Alternative SM5 would encompass the majority of the parking lots in the eastern portion of the Site, extends around the county maintenance building, and extends up to the edge of the main building complex in several places.

Based on the larger size and areas affected by this alternative, this alternative would require: (1) additional relocation of underground utilities (particularly near the main building complex); (2) installation of more sheet pile for excavation sidewall support; (3) more soil handling and off-Site disposal; (4) more dewatering and water treatment; and (5) more waste characterization and verification sampling, as compared to Alternative SM4.

Due to elevated levels of cyanide in groundwater at the northeastern corner of the Site, further investigation, delineation and removal (to the extent feasible) of suspected purifier waste source areas would be conducted.

A foam spray or other vapor control measures would be used to suppress odors and volatile organic vapors originating from the excavation and the excavated soil, as needed. A CAMP would be followed throughout remediation activities to ensure that airborne particulate and volatile organic vapor concentrations surrounding the excavation area are acceptable.

This alternative would also include the same institutional controls and SMP development provided under Alternative SM3 because certain soil at the Site would still contain chemical contaminants at concentrations exceeding unrestricted use soil cleanup objectives.

This alternative would require approximately two years to implement, at which time the remedial goals for soil would be met.

Present-Worth Cost:	$54,700,000
Capital Cost:	$54,500,000
Annual Costs:	$16,000

Groundwater Alternatives

Alternative GW1 - No Further Action

This alternative would involve no further action to address groundwater contamination beyond the extensive de-watering and treatment performed as part of the IRM, in which 283 million gallons of water were pumped and treated. This alternative serves as the baseline for comparison of the overall effectiveness of the groundwater remedies.

Because this alternative would result in contaminants remaining on-Site above levels that allow for unrestricted use and unlimited exposure, CERCLA requires that the Site be reviewed at least once every five years. If justified by the review, remedial actions may be implemented to remove or treat the wastes.

Alternative GW2 -Institutional Controls and Monitored Natural Attenuation

This alternative would consist of institutional controls to restrict groundwater use in the form of an environmental easement, development of an SMP, natural attenuation[1] to reduce concentrations of contaminants of concern in groundwater and groundwater monitoring to evaluate changes in groundwater conditions. The environmental easement would notify future property owners of the presence of MGP-related contaminants in the groundwater at the Site, restrict the use of on-Site groundwater, and notify the owners of the applicability of an SMP. Existing groundwater use laws [10 NYCRR 5-1.31(b)], which prohibit the installation of private wells where a public supply is available (unless approval is expressly granted by the public water authority), would continue to minimize potential human exposure to contaminants in groundwater at concentrations exceeding the groundwater quality standards/guidance values.

An SMP would be prepared under this alternative to identify areas of impacted groundwater associated with the Site and manage possible future intrusive activities that could result in the potential for contact with contaminated groundwater. Long-term monitoring would be performed under this alternative to evaluate the effectiveness of the attenuation. Groundwater sampling labor and expenses are based on semiannual sampling events within the first five year period. Sampling after that period would be conducted annually.

This alternative would require approximately 3 months to implement, but the remedial goals for groundwater are not expected to be achieved for at least 30 years.

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1 Natural attenuation is a variety of physical, chemical and biological processes which, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil and groundwater. These in-situ processes include biodegradation, dispersion, dilution, sorption, volatilization, and chemical or biological stabilization, transformation, or destruction.

Because under this alternative it would take more than five years to attain cleanup levels in the groundwater, CERCLA requires that the Site be reviewed at least once every five years.

Present Worth Cost:	$1,060,000
Capital Cost:	$97,500
Annual Costs (years 1-5):	$90,000
Annual Costs (years 6-30):	$52,200

Alternative GW3 - Enhanced Bioremediation and Institutional Controls

This alternative involves treating the impacted groundwater by enhancing microbial degradation. This alternative would also involve the monitoring and institutional controls described for Alternative GW2.

The treatment provided by this alternative would focus on the northern property boundary, upgradient of the Barge Canal and in the two areas where the highest concentrations of BTEX and PAHs were found in groundwater. Treatment would be performed in these two separate areas, as shown on Figure 8. Remaining areas of lower groundwater concentrations would be allowed to attenuate naturally.

Enhanced bioremediation would involve the addition of nutrients, sources of oxygen, and/or other amendments to improve the conditions for naturally-occurring bacteria to degrade MGP-related contaminants in groundwater, thereby reducing the discharge of contaminants from Site groundwater to off-Site groundwater and the Barge Canal. Groundwater monitoring would be performed under this alternative to evaluate changes in groundwater conditions and to optimize the addition of oxygen and nutrients. Modifications to the enhanced bioremediation treatment would be made, as needed, based on monitoring results. Groundwater sampling labor and expenses are based on semi-annual sampling events within the first five-year period. Sampling after that period would be conducted annually.

This alternative would require approximately 1 year to implement, and an estimated 10 years to achieve the remedial goals for groundwater.

Because under this alternative it would take more than five years to attain cleanup levels in the groundwater, CERCLA requires that the Site be reviewed at least once every five years.

Present-Worth Cost:	$3,660,000
Capital Cost:	$1,340,000
Annual Costs (years 1-5):	$191,000
Annual Costs (years 6-30):	$135,000

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES

During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria, namely, overall protection of human health and the environment, compliance with ARARs and TBCs, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short-term effectiveness, implementability, cost, and state and community acceptance.

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

1. **Overall protection of human health and the environment** addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

2. **Compliance with Applicable or Relevant and Appropriate Requirements** addresses whether or not a remedy would meet all of the ARARs of federal and state environmental statutes and requirements or provide grounds for invoking a waiver. Other federal or state advisories, criteria, or guidance are TBCs. Compliance with TBCs is not required by the NCP, but may be useful in determining what is protective of a site or how to carry out certain actions or requirements.

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

4. **Long-term Effectiveness and Permanence** 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 engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

5. **Reduction of Toxicity, Mobility or Volume through Treatment** is the anticipated performance of the treatment technologies, with respect to these parameters, that a remedy may employ. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

6. **Implementability** addresses the technical and administrative feasibility of implementing each alternative. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

7. **Cost** includes estimated capital, operation, maintenance, and monitoring, and net present-worth costs. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The following **"modifying criteria"** are used in the final evaluation of the remedial alternatives after the formal comment period, and may prompt modification of the preferred remedy that was presented in the Proposed Plan:

8. **Support Agency Acceptance** indicates whether, based on its review of the RI/FS, PRAP, and ROD, NYSDOH (the support agency for NYSDEC) concurs with, opposes, or has no comment on the selected remedy at the present time.

9. **Community Acceptance** refers to the public's general response to the alternatives described in the RI/FS reports and PRAP.

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A comparative analysis of the remedial alternatives based upon the evaluation criteria noted above follows.

Overall Protection of Human Health and the Environment

Alternative SM1, no further action, would not be protective of human health and the environment, since it would not actively address the contaminated subsurface soils which present unacceptable human health risks and the soils would continue to release contaminants to on-Site and off-Site groundwater.

Alternatives SM3 (in-situ solidification and institutional controls), SM4 (focused soil excavation and institutional controls), and SM5 (soil excavation and institutional controls), on the other hand, would be protective of human health and the environment , since each alternative relies upon a remedial strategy and/or treatment technology capable of eliminating exposure in combination with institutional controls and an SMP.

Since Alternatives GW1 (no further action) and GW2 (institutional controls and monitored natural attenuation) would rely upon natural attenuation (which has not been demonstrated to be occurring at the Site) to restore groundwater quality to drinking water standards, they would not be as protective as Alternative GW3 (enhanced bioremediation and institutional controls), which would include actively address the contaminated groundwater. The institutional controls and SMP under Alternatives GW2 and GW3 would provide protection to construction workers performing intrusive activities below the water table, such as activities to repair existing, or install new, subsurface utilities/facilities. The SMP would identify requirements for use of personal protective equipment and proper management of impacted groundwater that may be encountered.

Compliance with ARARs

New York State has issued soil cleanup objectives for remedial programs (6 NYCRR Part 375.6).

Since the contaminated soils would not be addressed under Alternative SM1, this alternative would not achieve the soil cleanup objectives. Alternatives SM3, SM4, and SM5 would achieve the soil cleanup objectives.

Since Alternatives SM4 and SM5 would involve the excavation of contaminated soils, they would require compliance with fugitive dust regulations. Since the excavated soils under these two alternatives would be transported off-Site, they would also be subject to New York State and federal regulations related to the off-Site transportation of wastes.

EPA and NYSDOH have promulgated health-based protective MCLs (40 CFR Part 141, and 10 NYCRR, Chapter 1), which are enforceable standards for various drinking water contaminants (chemical-specific ARARs). Although the groundwater at the Site is not presently being utilized as a potable water source, achieving MCLs in the groundwater is an applicable standard, because area groundwater is a potential source of drinking water. Alternatives GW1 and GW2 would not provide for any direct remediation of groundwater and would, therefore, rely upon natural processes (which have not been demonstrated to be occurring at the Site) to achieve chemical-specific ARARs. Alternative GW3 would be the most effective in reducing groundwater contaminant concentrations below MCLs, since it would include treatment

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The provisions of New York State Environmental Conservation Law Section 27-1318, Institutional and Engineering Controls, may be applicable to the environmental easements in Alternatives SM3, SM4, SM5, GW2, and GW3.

A full list of potential chemical-specific, action-specific and location-specific ARARs appears in Table 12 of Appendix II.

Short-Term Effectiveness

Since Alternative SM1 does not include any physical construction measures in any areas of contamination it would not present any potential adverse impacts to remediation workers or the community as a result of its implementation. Alternative SM3 would have moderate short-term impacts, primarily related to coordination with the operation of the Metro STP during the solidification process. Activities in the affected area, primarily parking and access would be disrupted during the remediation, and utilities would be relocated or protected. Soils excavated from the upper few feet would require staging and temporary stockpiling, which would require additional space. Alternatives SM4 and SM5 would have greater short-term impacts on the Metro STP operations, as increasing volumes of excavated soil would require staging and transport off the Site. Excavation shoring would significantly impact Site utilities. Alternatives SM4 and SM5 would have greater impacts to the surrounding community due to increased truck traffic and potential odors associated with the excavation and handling of NAPL-contaminated soils. Excavations required under Alternative SM5 could affect critical infrastructure such as buildings, treatment units and support buildings, and may have significant short-term impacts to the Metro STP, such as accidental damage to infrastructure and potential temporary shut-downs. Alternatives SM4 and SM5 could present some limited adverse impacts to remediation workers through dermal contact and inhalation related to excavation activities. Noise from the excavation work associated with Alternatives SM4 and SM5 could present some limited adverse impacts to remediation workers and nearby residents. In addition, post-remediation soil sampling activities would pose some risk. The risks to remediation workers and nearby residents under all of the alternatives could, however, be mitigated by following appropriate health and safety protocols, by exercising sound engineering practices, and by utilizing proper protective equipment. Under Alternatives SM4 and SM5, substantial disturbance of the land during excavation activities could affect the surface water hydrology of the areas being excavated. For these alternatives, there is a potential for increased stormwater runoff and erosion during excavation activities that would have to be properly managed to prevent or minimize any adverse impacts. For these alternatives, appropriate measures would have to be taken during excavation activities to prevent the transport of fugitive dust.

Since no actions would be performed under Alternative SM1, there would be no implementation time. Alternatives SM3, SM4, and SM5 would require an estimated 12 months, 12 months, and 24 months, respectively, to implement.

Alternatives GW1 and GW2 would have no short-term impact to workers or the community and would have no adverse environmental impacts, since no actions would be taken. Alternatives GW2 and GW3 might present some limited risk to remediation workers through dermal contact and inhalation related to groundwater sampling activities. The risks to on-Site workers could, however, be minimized by utilizing proper protective equipment.

Since no actions would be performed under Alternative GW1, there would be no implementation time. Alternative GW2 would require an estimated 2 months to implement and Alternative GW3 would require an estimated 12 months to implement.

Long-Term Effectiveness and Permanence

Since alternative SM1 would involve no active remedial measures, it would not be effective in eliminating the continued release of contaminants to the environment. Alternative SM3 would have a high degree of long-term effectiveness in eliminating the continued release of contaminants to the environment. Although treated residuals would remain at the Site, the engineering and institutional controls necessary to maintain the protectiveness of the remedy are highly reliable. Alternative SM4 would have a somewhat higher degree of long-term effectiveness than Alternative SM3, because contaminated soils would be removed from the Site and there would be no treated materials requiring long-term management. Alternative SM5 would provide a high degree of long-term effectiveness.

Alternatives GW1 and GW2 would be expected to have minimal long-term effectiveness, since they both would rely upon natural attenuation to restore groundwater quality. Natural attenuation has not, however, been proven to be occurring at this Site. The bioremediation under Alternative GW3 would be more effective in achieving groundwater standards than Alternatives GW1 and GW3.

Reduction in Toxicity, Mobility, or Volume Through Treatment

Alternative SM1 would not provide any reduction in toxicity, mobility or volume through treatment. Alternatives SM3 and SM4 would provide the same level of reduction because the same areas of contamination would be targeted. Treatment would be performed on-Site for Alternative SM3 and off-Site for SM4. Alternative SM5 would provide a greater reduction since a larger volume of soils would be treated off-Site.

Alternatives GW1 and GW2 would not effectively reduce the toxicity, mobility, or volume of contaminants in the groundwater, as these alternatives involve no active remedial measures. These alternatives would rely on natural attenuation to reduce the levels of contaminants, a process that has not been demonstrated to be occurring at this Site. Under Alternative GW3, enhanced bioremediation would be expected to reduce the toxicity and volume of MGP-related contaminants in groundwater through treatment to a greater degree in a shorter time frame.

Implementability

Alternative SM1 would be the easiest to implement, as there are no activities to undertake. While solidification is a readily available technology that is proven and reliable in immobilizing contaminants in soils, Alternative SM3 would be moderately difficult to implement due to the presence of several utility lines in the treatment area and the coordination required with the Metro STP operations. Alternative SM3 would also require design-phase testing to determine the proper solidification mixture for the soils. Alternative SM4 would be more difficult to implement due to the need to relocate critical utilities in order to construct excavation shoring and perform the excavation. The space needed for the excavation, support activities and stockpiled soils and backfill materials would present significant difficulties in coordinating with the Metro STP operations. Alternative SM5 could disrupt several critical activities of the Metro STP operations, and may not be technically or administratively feasible.

Solidification is a readily available technology that is proven and reliable in immobilizing contaminants in soils. Equipment, services, and materials needed for all of the soil action alternatives are readily available and the actions under these alternatives would be administratively feasible. Sufficient facilities are available for the off-Site treatment/disposal of the excavated materials under Alternatives SM4 and SM5. Under Alternatives SM4 and SM5, determining the extent of the excavation could be easily accomplished through post-excavation soil sampling and analysis. Monitoring the effectiveness of the solidification process under Alternative SM3 would be easily accomplished through groundwater monitoring. The implementation of institutional controls and the development of an SMP would be relatively easy to implement under Alternatives SM3, SM4, and SM5.

Alternative GW1 would be the easiest to implement, since it would not entail the performance of any activities. With the implementation of institutional controls and the development of an SMP, while easily implementable, Alternative GW2 would be slightly more difficult to implement than Alternative GW1. Alternative GW3 would be slightly more difficult due to the need to optimize the rate of natural degradation processes in the unique groundwater conditions associated with the high pH (elevated by Solvay waste) and naturally-occurring high salinity. Alternative GW3 would have minor short-term impacts, and these would be primarily due to remedial workers handling injected chemicals.

Alternatives GW2 and GW3 would be easy to implement technically with little or no administrative problems.

Equipment, services, and materials needed for Alternative GW3 are readily available and the actions under these alternatives would be administratively feasible.

The implementation of institutional controls and the development of an SMP would be relatively easy to implement under Alternatives GW2 and GW3.

Cost

The capital, annual, and present-worth costs are summarized in Table 13, which appears in Appendix II.

As shown on Table 13, Alternative SM1 has limited costs. Alternative SM3 has moderate total costs ($6.7 million), with a somewhat higher proportion of annual costs associated with long-term monitoring of the solidified soil. The cost of Alternative SM4 ($18.8 million) is more than double the cost of SM3, even though it addresses that same area of soil contamination. Alternative SM5 would cost an additional $36 million ($54.7 million), due to the need to remove a much larger volume of less contaminated soil in close proximity to critical Metro STP infrastructure.

The least costly groundwater remedy is Alternative GW1 at $0. Alternative GW3 is the most costly groundwater alternative at an estimated present-worth cost of $3.7 million.

Support Agency Acceptance

NYSDOH (the support agency for NYSDEC) concurs with the selected remedy.

Community Acceptance

Comments received during the public comment period indicate that the public generally supports the selected remedy. The public's comments are summarized and addressed in the Responsiveness Summary, which is attached as Appendix IV to this document.

PRINCIPAL THREAT WASTE

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430 (a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund Site. A source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for the migration of contamination to groundwater, surface water, or air, or acts as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat principal threat wastes is made as provided in the Principal Threat Waste Guidance, OSWER Directive No. 9380.3-06FS,"A Guide to Principal Threat and Low Level Threat Wastes" and additionally pursuant to Site-specific concerns. This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

Coal tar, BTEX and PAHs are present in soil at the Site at levels that have caused significant groundwater contamination. These waste materials and hazardous substances would also present a significant risk to human health or the environment should exposure occur. Therefore, these waste materials and highly contaminated soils constitute a principal threat waste.

Alternative SM3 would address source materials constituting principal threats by treating them in place to immobilize contaminants and reduce the flux of groundwater through the treated area. Alternatives SM4 and SM5 would address source materials constituting principal threats by excavating contaminated soils and transporting them off-Site for thermal treatment. Therefore, Alternatives SM3, SM4, and SM5 would satisfy the preference for treatment to the extent practicable. With regard to the groundwater alternatives, only Alternative GW3 involves the in-place treatment of the contaminated groundwater, thereby satisfying the preference for treatment.

SELECTED REMEDY

Summary of the Rationale for the Selected Remedy

Based upon consideration of the requirements of CERCLA, the detailed analysis of the alternatives, and public comments, NYSDEC and EPA have determined that Alternatives SM3 for soil, in-situ solidification of contaminated soils and GW3 for groundwater, enhanced bioremediation of contaminated groundwater, best satisfy the requirements of CERCLA Section 121, 42 USC §9621, and provide the best balance of tradeoffs among the remedial alternatives with respect to the NCP's nine evaluation criteria, 40 CFR Section 300.430(e)(9).

Alternative SM3 addresses the RAOs, RGs and cleanup levels for BTEX, PAHs and other COPCs and will result in a long-term reduction in the mobility of these contaminants. Alternative SM3 is preferred over Alternatives SM4 and SM5 because it provides the same overall protection of human health and the environment and compliance with ARARs as Alternatives SM4 and SM5, but at significantly less cost ($6.7 million versus $18.8 million and $54.5 million, respectively), presents less short-term impacts, and is more implementable than Alternatives SM4 and SM5.

Alternative SM3 will protect human health primarily through institutional controls. Alternative SM3 will protect groundwater resources by incorporating contaminated soils into a solidified matrix that will break the soil to groundwater migration pathway.

Alternative GW3 addresses the RAOs, RGs and cleanup levels for BTEX, PAHs and other COPCs and will result in a long-term reduction in the volume of these contaminants. Alternative GW3 is preferred over Alternatives GW1 and GW2 because it will reduce the volume of COPCs to a greater degree in a shorter time frame. Although GW3 will be more difficult and costly to implement ($3.7 million versus $0 and $1.02 million, respectively), it will provide a higher degree of environmental protection.

The selected remedy is believed to provide the greatest protection of human health and the environment, provide the greatest long-term effectiveness, be able to achieve the ARARs more quickly, or as quickly, as the other alternatives, and is cost-effective. Therefore, the selected remedy would provide the best balance of tradeoffs among alternatives with respect to the evaluation criteria. EPA and NYSDEC believe that the selected remedy would treat principal threats, be protective of human health and the environment, comply with ARARs, be cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. The selected remedy also would meet the statutory preference for the use of treatment as a principal element.

Description of the Selected Remedy

Based upon an evaluation of the various alternatives, NYSDEC and EPA select Alternative SM3 (in-situ solidification and institutional controls) and Alternative GW3 enhanced bioremediation and institutional controls) as the remedy for the soil and groundwater, respectively. Specifically, this will involve the following:

1. A remedial design program, including a pre-design investigation and bench- and pilot-scale treatability studies, will be performed to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. The bench- and pilot-scale treatability studies will be performed to evaluate the effectiveness of various cement-bentonite mixtures (i.e., soil solidification mixtures) at reducing the leachability and permeability of the impacted soil, including the Solvay waste, at the Site. Solidification mixtures will be evaluated for compatibility with the contaminants of concern and tested for density, permeability, strength, and leachability of VOCs and SVOCs.

2. Subsurface soils from the northeastern portion of the Site where NAPL has been identified in lenses and where PAHs were identified at concentrations greater than 500 mg/kg will be treated using ISS. The approximate extent of the area that will be treated by ISS under this alternative is shown on Figure 8. ISS of the MGP-impacted zone will be performed to depths ranging to a depth of 22 to 24 feet below grade within an approximate 20,600 square foot area. Soils exhibiting odors, staining or sheens will not be treated unless they exceed the 500 mg/kg PAH criterion. Areas restricted by underground utilities that cannot be relocated will be jet grouted and/or surrounded by a solidified area that is sufficient to limit groundwater migration through them. The solidification mixture will be designed to account for the potential future use of this area, including expansions to the Metro STP, if any. To account for the volume expansion associated with ISS, approximately 4-6 feet of shallow soils will be removed prior to the ISS process. Of this excavated material, any MGP waste, coal tar or contaminated soils meeting one or more of the following criteria: visible tar or oil; the presence of sheens or odors with total PAHs over 500 mg/kg; or total BTEX concentration above 10 mg/kg, will be disposed of at an off-Site treatment or disposal facility. Excavated materials which are below these criteria may be stockpiled and evaluated for reuse as backfill on-Site. This removal of shallow soils will also include potential underground structures and obstructions that could impede the ISS process.

3. Further investigation, delineation and removal (to the extent feasible) of suspected purifier waste source areas will be conducted to the northeast of the county maintenance building.

4. Enhanced biodegradation of dissolved phase contaminants through the injection of nutrients, sources of oxygen, and/or other amendments. This will occur along the northern property boundary between the Barge Canal and areas where the highest concentrations of BTEX and PAHs were found in groundwater. Modifications to the enhanced bioremediation treatment will be made, as needed, based on monitoring results. Residual groundwater contamination outside of these areas will be allowed to attenuate naturally.

5. Exposed surface soil will be covered with either a one-foot thick soil cover consisting of clean soil underlain by a demarcation layer; or buildings, treatment structures, pavement, etc. The cover soil may be from any re-used stockpiled soil that meets the criteria for clean cover soils. In vegetated areas, the top six inches of soil will be of sufficient quality to support vegetation. Clean soil will constitute soil that meets the Division of Environmental Remediation's criteria for backfill pursuant to 6NYCRR 375-6.7(d) or local Site background. Non-vegetated areas (buildings, roadways, parking lots, etc.) will be covered by a paving system or concrete at least 6 inches thick.

6. Development of an institutional control in the form of an environmental easement that will require; (a) limiting the use and development of the property to industrial use; (b) compliance with the approved SMP; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) completion and submittal to NYSDEC a periodic certification of institutional and engineering controls.

7. Since the remedy results in contamination remaining at the site that does not allow for unrestricted use, a Site Management Plan will be developed which includes the following:

   (a) An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to assure the following institutional and/or engineering controls remain in place and effective:

   Institutional Controls: The Environmental Easement discussed in Paragraph 6 above

   Engineering Controls: The solidified soil material discussed in Paragraph 2 above and the soil cover discussed in Paragraph 5 above

   This plan will include, but may not be limited to:

   (i) a Soil Management Plan which identifies known locations of MGP-impacted soil at the Site and details the provisions for management of future excavations in areas of remaining contamination;
   (ii) descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
   (iii) provisions for the management, inspection and maintenance of the identified engineering controls, including perimeter fencing and vegetation/cover materials;
   (iv) maintaining site access controls and NYSDEC notification; and
   (v) the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

(b) A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan will include, but not be limited to:

(i) monitoring of groundwater to assess the performance and effectiveness of the remedy;
(ii) a schedule of monitoring and frequency of submittals to NYSDEC;
(iii) a provision to evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified;
(iv) a provision to evaluate the potential for soil vapor intrusion for existing buildings if building use changes significantly or if a vacant building becomes occupied.

8. At a frequency not exceeding five years, a periodic review will be performed, including provision of a certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to NYSDEC, until NYSDEC provides notification in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with NYSDEC-approved modifications; (b) allow the NYSDEC access to the Site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the SMP unless otherwise approved by NYSDEC.

9. To maximize the net environmental benefit, green remediation and sustainability efforts will be considered in the design and implementation of the remedy to the extent practicable, including:

- Using renewable energy sources
- Reducing greenhouse gas emissions
- Encouraging low carbon technologies
- Increase recycling and reuse of clean materials

The environmental benefits of the selected remedy may be enhanced by consideration, during the remedial design, of technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green policy[2]. This will include consideration of green remediation technologies and practices.

Because this remedy will result in contaminants remaining on-Site above levels that would allow for unlimited use and unrestricted exposure to Site media, CERCLA requires that the Site be reviewed at least once every five years. If justified by the review, additional remedial actions may be selected and implemented to remove, treat, or contain the contaminated sediments and soils.

Summary of the Estimated Remedy Costs

The estimated cost of the selected remedy for the Site is $10,389,000. This total cost estimate is comprised of a capital cost of $7,826,000 and annual Site management cost ranging from $151,000 to $207,000 (or $2,563,000 in present worth cost).

The cost estimates in this ROD are based on capital (construction) costs and the present worth of the annual Site management costs calculated using a discount rate of 7 percent and a 30-year time

[2] See http://epa.gov/region2/superfund/green_remediation.

interval. The actual costs may vary depending on the specifications contained in the detailed remedial design. Further, the actual costs will also vary because the cost estimates provided are developed conservatively and have an accuracy of +50 percent to -30 percent, to comply with the 1988 EPA guidance document, "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA."

Table 13 provides details of the estimated cost of the remedial alternatives including the selected remedy.

Expected Outcomes of the Selected Remedy

The results of the HHRA indicate that the Site, if left unremediated, presents an unacceptable noncancer hazard and an increased cancer risk to future construction and utility workers.

Under the selected remedy, it is estimated that concentrations of contaminants in groundwater will be reduced following completion of remedial activities. Potential risks to humans who come in contact with contaminated groundwater will be eliminated or reduced as contaminant levels fall. Groundwater monitoring data from post-remedial monitoring can be used to document improvements in water quality.

STATUTORY DETERMINATIONS

Under CERCLA Section 121 and the NCP, remedies must be selected that are protective of human health and the environment, comply with ARARs (unless a statutory waiver is justified), are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, or contaminants at a site.

For the reasons discussed below, NYSDEC and EPA have determined that the selected remedy meets these statutory requirements.

Protection of Human Health and the Environment

The selected remedy will be protective of human health and the environment in that all RAOs, RGs, and cleanup levels will be met through the implementation of this remedy. The predicted reductions of BTEX, PAHs and other hazardous substances are expected to reduce the exposures of humans to these hazardous substances in soil and groundwater. The bioremediation remedy is expected to significantly reduce concentrations of hazardous substances in groundwater within a reasonable timeframe and restore groundwater to drinking water standards.

The implementation of the selected remedy will not pose unacceptable short-term risks or cross-media impacts that cannot possibly be mitigated.

Compliance with ARARs and Other Environmental Criteria

A summary of action-specific, chemical-specific, and location-specific ARARs, as well as TBCs, which will be complied with during implementation of the selected remedy, is presented below.

Action-Specific ARARs:

- National Emissions Standards for Hazardous Air Pollutants (40 CFR Parts 51, 52, and 60)
- 6 NYCRR Part 257, Air Quality Standards
- 6 NYCRR Part 200, New York State Regulations for Prevention and Control of Air Contamination and Air Pollution
- 6 NYCRR Part 375-1,-2, Environmental Remediation Programs
- 6 NYCRR Part 376, Land Disposal Restrictions
- Resource Conservation and Recovery Act (42 U.S.C. § 6901, *et seq*.)
- 29 CFR 1910, Occupational Safety and Health Standards

Chemical-Specific ARARs:

- Safe Drinking Water Act (SDWA) MCLs and nonzero MCL Goals (40 CFR Part 141)
- 6 NYCRR Parts 700-705 Groundwater and Surface Water Quality Regulations
- 6 NYCRR Part 703, New York State Surface Water Quality Standards

Location-Specific ARARs:

- Fish and Wildlife Coordination Act, 16 U.S.C. 661
- New York State Environmental Conservation Law, Article 24, Freshwater Wetlands
- 6 NYCRR Part 663, Freshwater Wetlands Permit Requirements Regulations
- New York State Environmental Conservation Law, Article 15, Use and Protection of Waters
- 6 NYCRR Part 608, Use and Protection of Waters
- National Historic Preservation Act

Other Criteria, Advisories, or Guidance TBCs:

- New York Guidelines for Soil Erosion and Sediment Control
- New York State Air Cleanup Criteria, January 1990
- SDWA Proposed MCLs and nonzero MCL Goals
- NYSDEC DER Program Policy DER-4 "Management of Coal Tar Waste & Coal Tar Contaminated Soils from Manufactured Gas Plants"
- NYSDEC Technical and Operational Guidance Series 1.1.1, June 1998
- NYSDEC Guidelines for the Control of Toxic Ambient Air Contaminants, DAR-1, November 12, 1997
- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999
- EPA Region 2's Clean and Green Policy, March 2009
- EPA's 1985 Policy on Floodplains and Wetland Assessments for CERCLA Actions
- EPA's Protection of Wetlands Executive Order 11990
- EPA's Floodplain Management Executive Order 11988

Cost-Effectiveness

A cost-effective remedy is one whose costs are proportional to its overall effectiveness (NCP §300.430(f)(1)(ii)(D)). Overall effectiveness is based on the evaluations of: long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness. Based on the comparison of overall effectiveness (discussed above) to cost, the selected remedy meets the statutory requirement that Superfund remedies be cost-effective in that for a reasonable increase in cost, it affords a greater degree of permanence and reliability than does the lower-cost action alternatives, and it will achieve the remediation goals in a reasonable time frame.

Each of the alternatives has undergone a detailed cost analysis. In that analysis, capital and annual O&M costs have been estimated and used to develop present-worth costs. The cost estimates presented in this ROD are based upon capital (construction) costs and the present-worth of the annual O&M costs calculated using a discount rate of 7 percent and a 30-year time interval.

Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

NYSDEC and EPA have determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the Site. Of the alternatives that are protective of human health and the environment and comply with ARARs, NYSDEC and EPA have determined that the selected remedy provides the best balance of tradeoffs in terms of the five balancing criteria set forth in NCP §300.430(f)(1)(i)(B), while also considering the statutory preference for treatment as a principal element and the bias against off-Site disposal without treatment and further considering support agency and community acceptance.

Implementation of the selected remedy will utilize a permanent and alternative treatment technology (ISS) to immobilize contaminated soils to reduce the mass flux of BTEX, PAHs and other COPCs into groundwater. A permanent and alternative treatment technology (enhanced bioremediation) will also be used to treat groundwater. As a result, the statutory preference for permanent and alternative treatment technologies is satisfied.

Preference for Treatment as a Principal Element

The statutory preference for remedies that employ treatment as a principal element is satisfied under the selected remedy in that principal threat waste coal tar and contaminated soils will be treated in place using ISS to reduce contaminant mobility.

Five-Year Review Requirements

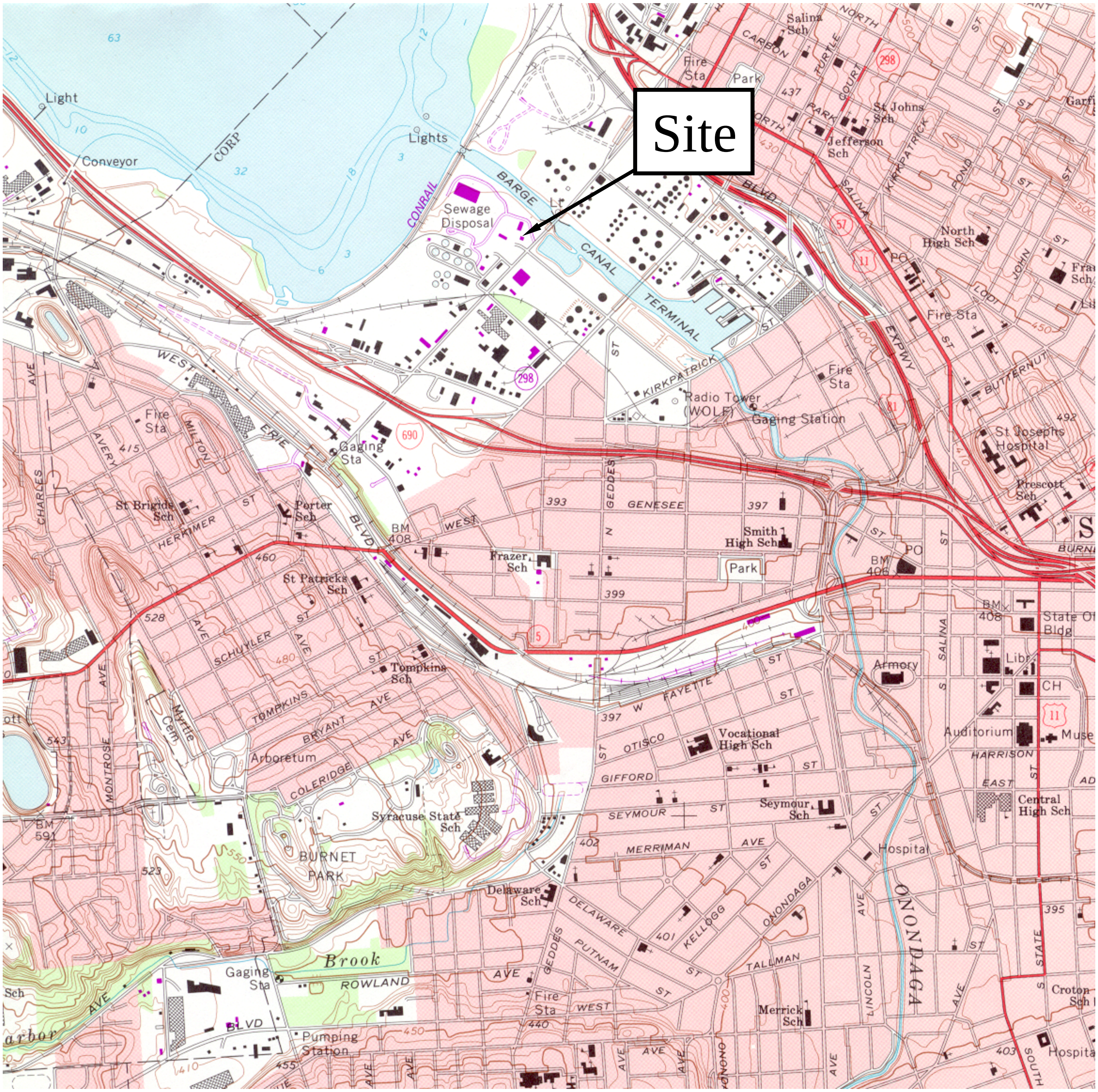
Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on-Site above levels that allow for unlimited use and unrestricted exposure to Site media, a statutory review will be conducted within five years after initiation of remedial action. The five-year review will evaluate the results from monitoring programs established as part of this remedy to ensure that the remedy remains protective of human health and the environment.

DOCUMENTATION OF SIGNIFICANT CHANGES

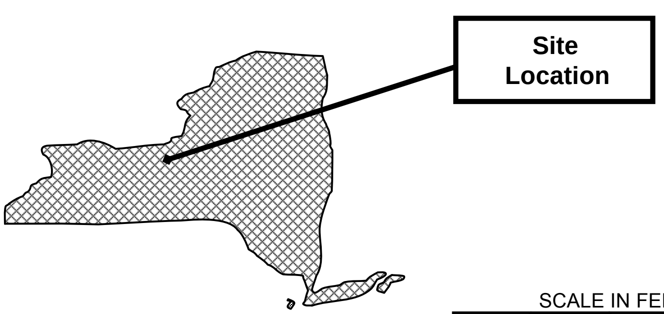
The PRAP identified Alternatives SM3 (ISS) and GW3 (Enhanced Bioremediation) as the preferred remedy. NYSDEC and EPA have determined that no significant changes to the remedy, as originally identified in the PRAP, were necessary or appropriate.

APPENDIX I

FIGURES



Reference: U.S. Geological Survey, 7.5 x 15 Minute Quadrangle, Syracuse West, New York 1973.



N

SCALE IN FEET

0 1000 2000 4000

SITE LOCATION		
National Grid Hiawatha Blvd. Former MGP Site Syracuse, New York		
DRAWN: MB APP'D: MS	Date: July 2006	FIGURE 1

ARCADIS

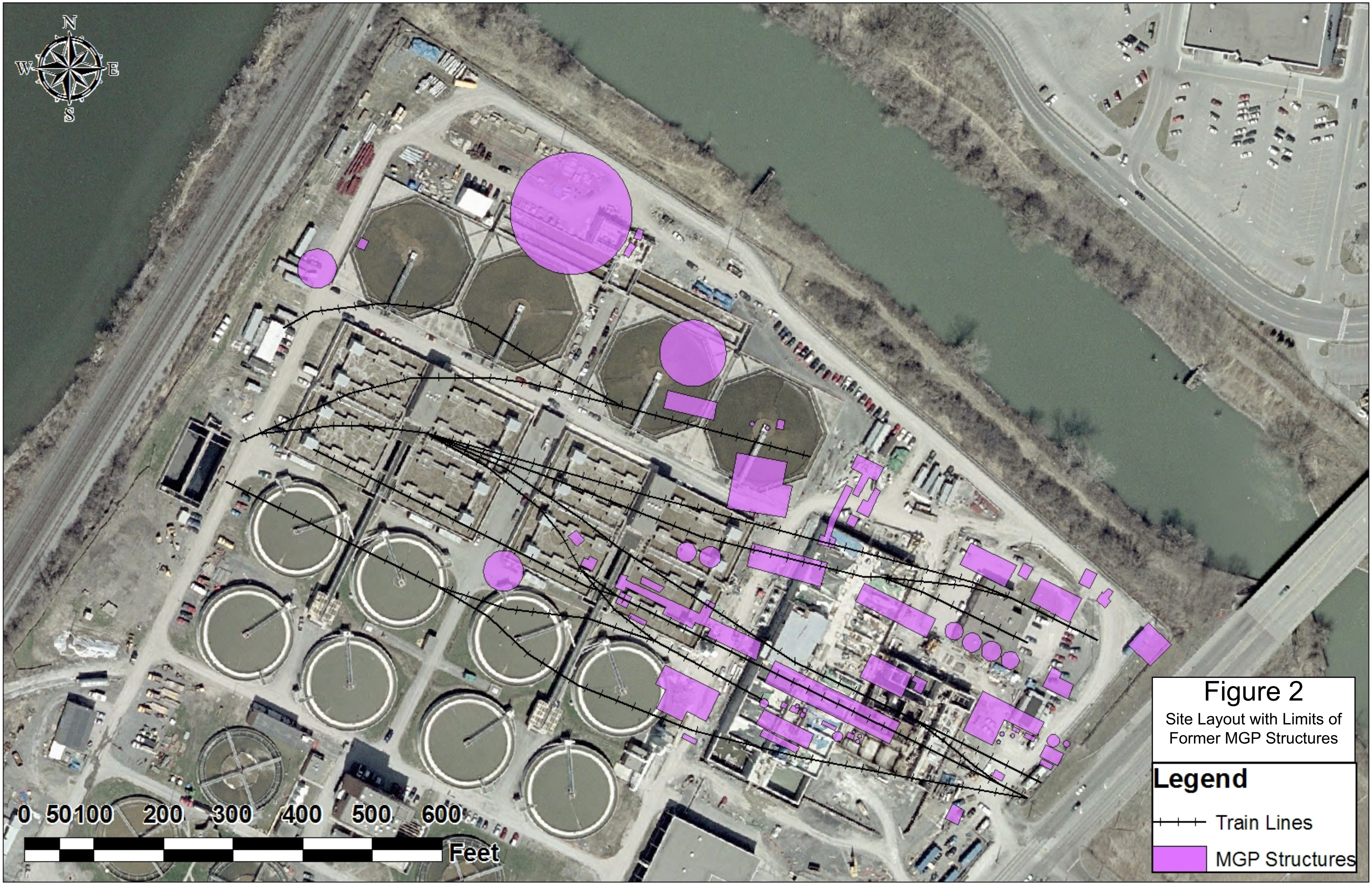


Figure 2
Site Layout with Limits of Former MGP Structures

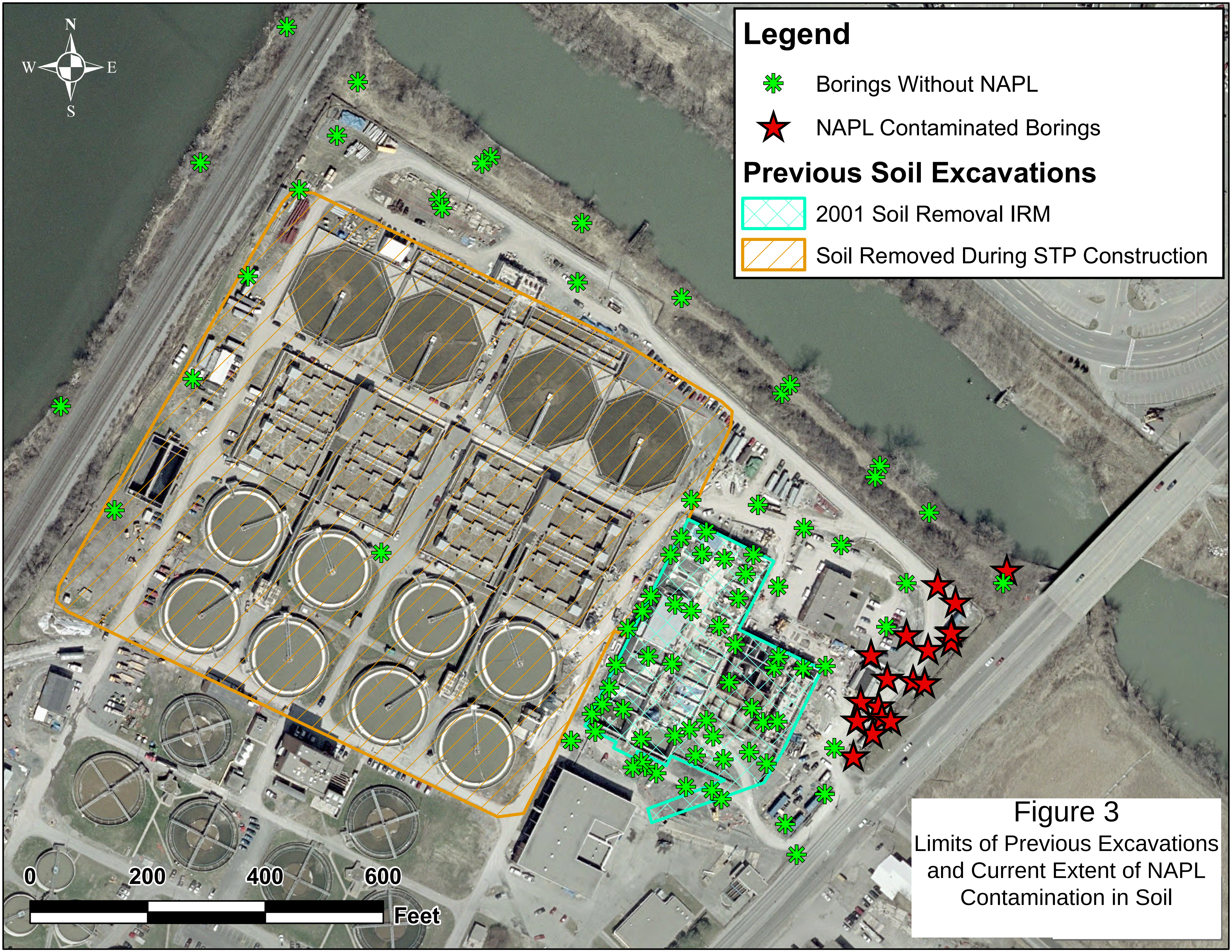


Figure 3
Limits of Previous Excavations and Current Extent of NAPL Contamination in Soil

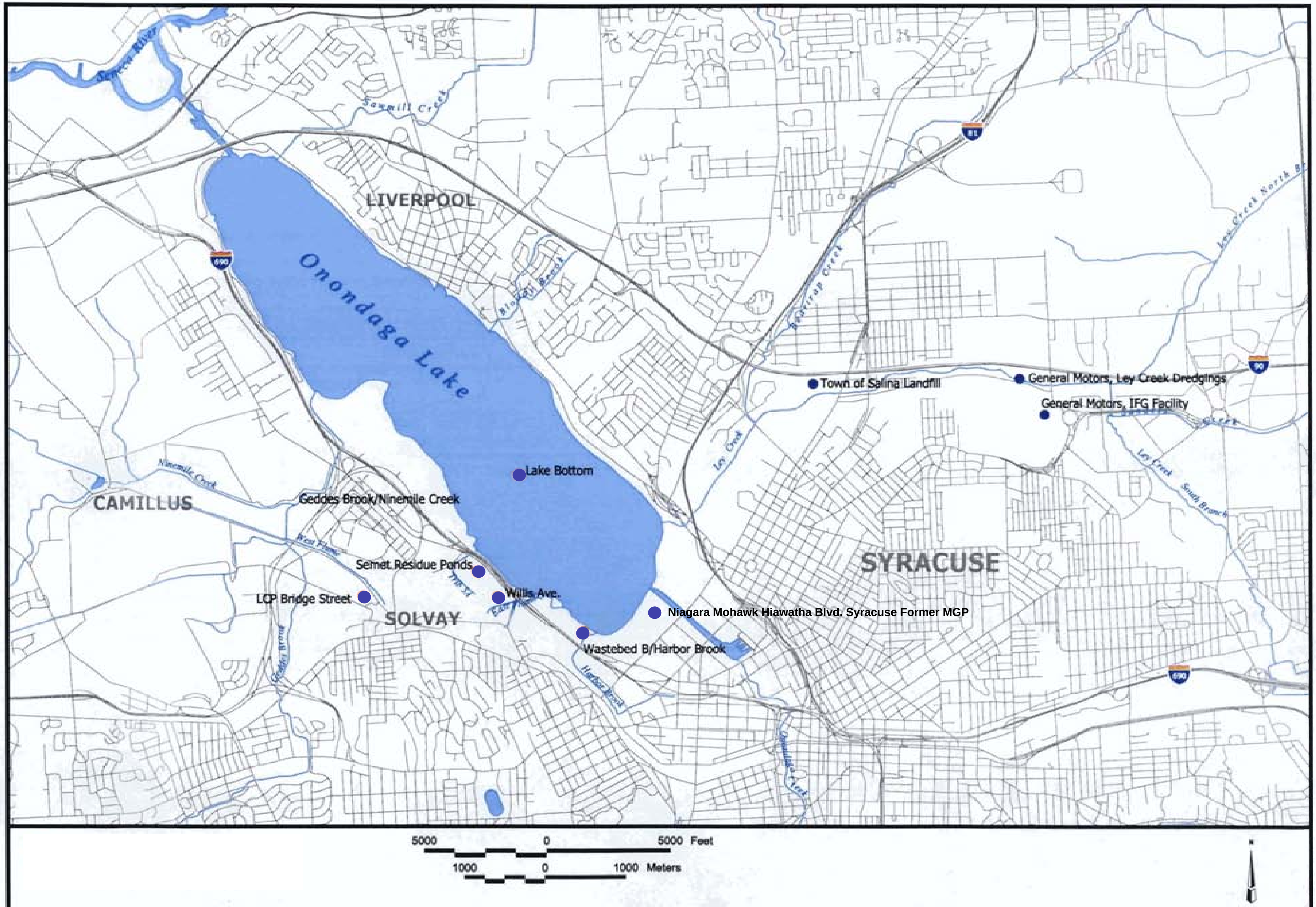
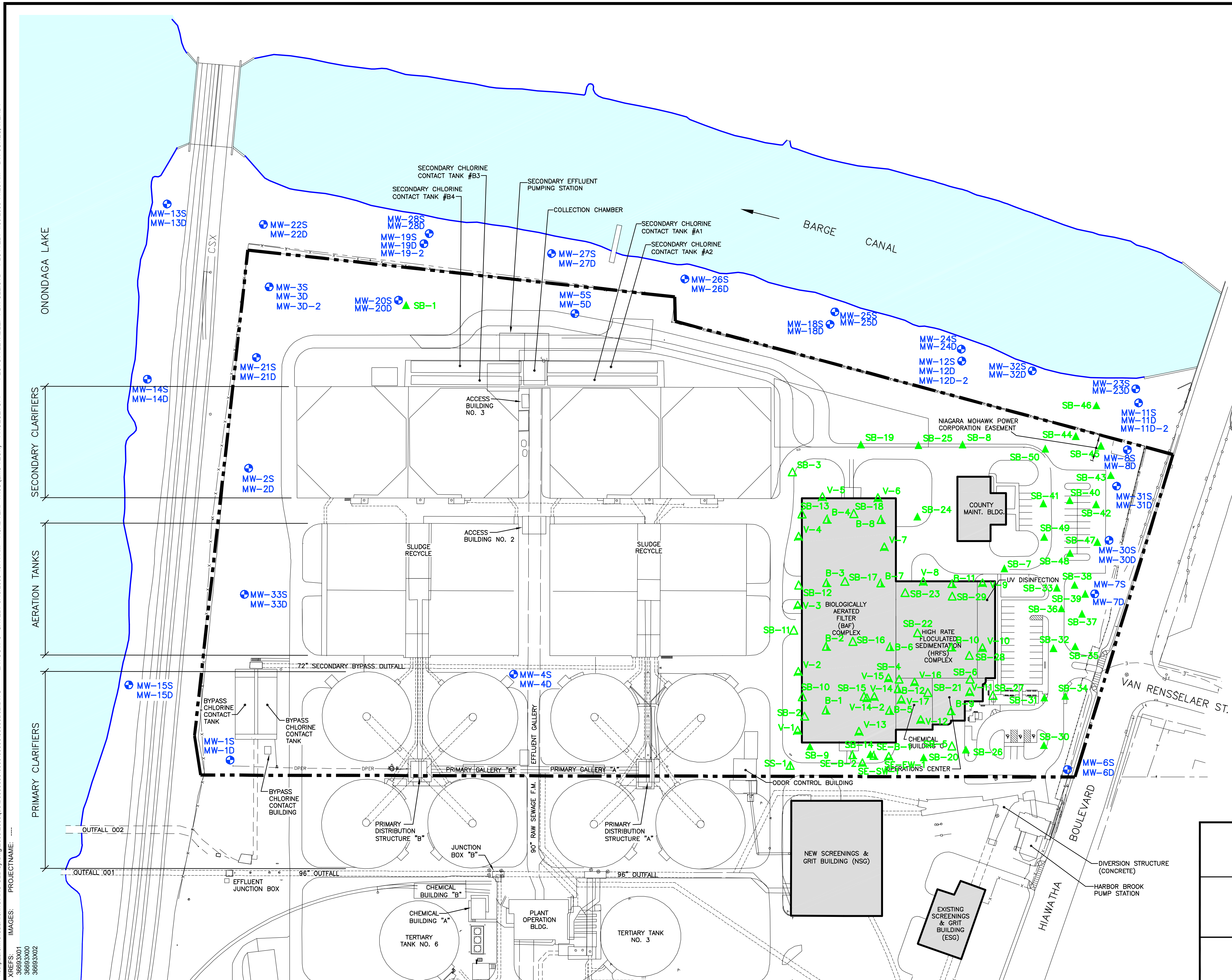


Figure 4 Location of Onondaga Lake NPL Subsites



LEGEND:

- MW-1D — EXISTING MONITORING WELL LOCATION
- SB-24 — SOIL BORING LOCATION
- SB-16 — SOIL BORING LOCATION WHERE SOIL WAS REMOVED AS PART OF THE INTERIM REMEDIAL MEASURE
- SS-1 — SURFACE SOIL SAMPLING LOCATION
- V-7 — SOIL REMOVAL IRM POST-EXCAVATION SIDE WALL SAMPLE
- B-10 — SOIL REMOVAL IRM POST-EXCAVATION BOTTOM SAMPLE
- BOUNDARY OF FORMER MANUFACTURED GAS PLANT (MGP) SITE
- EXISTING BUILDINGS

NOTES:

1. BASE MAP DEVELOPED FROM FIGURE TITLED "SITE PLAN" FOR THE METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT STAGE III AMMONIA AND STAGE II PHOSPHOROUS REMOVAL PROJECT, PREPARED BY ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP, DATED APRIL 2001 (FIGURE NO. G-008).
2. MONITORING WELL LOCATIONS ARE BASED ON SURVEY PERFORMED BY BRYANT ASSOCIATES OF SYRACUSE, NEW YORK.
3. SOIL BORING, SURFACE SOIL, SOIL REMOVAL IRM POST-EXCAVATION BOTTOM AND SIDE WALL SAMPLING LOCATIONS ARE APPROXIMATE.
4. BOUNDARY OF FORMER MGP SITE FROM FIGURE TITLED "PROPERTY PLAN, THE SYRACUSE LIGHTING COMPANY, INC., HIAWATHA STREET PROPERTY & ADJOINING LANDS," AT A SCALE OF 1"=50" UNDATED.
5. IRM = INTERIM REMEDIAL MEASURE.

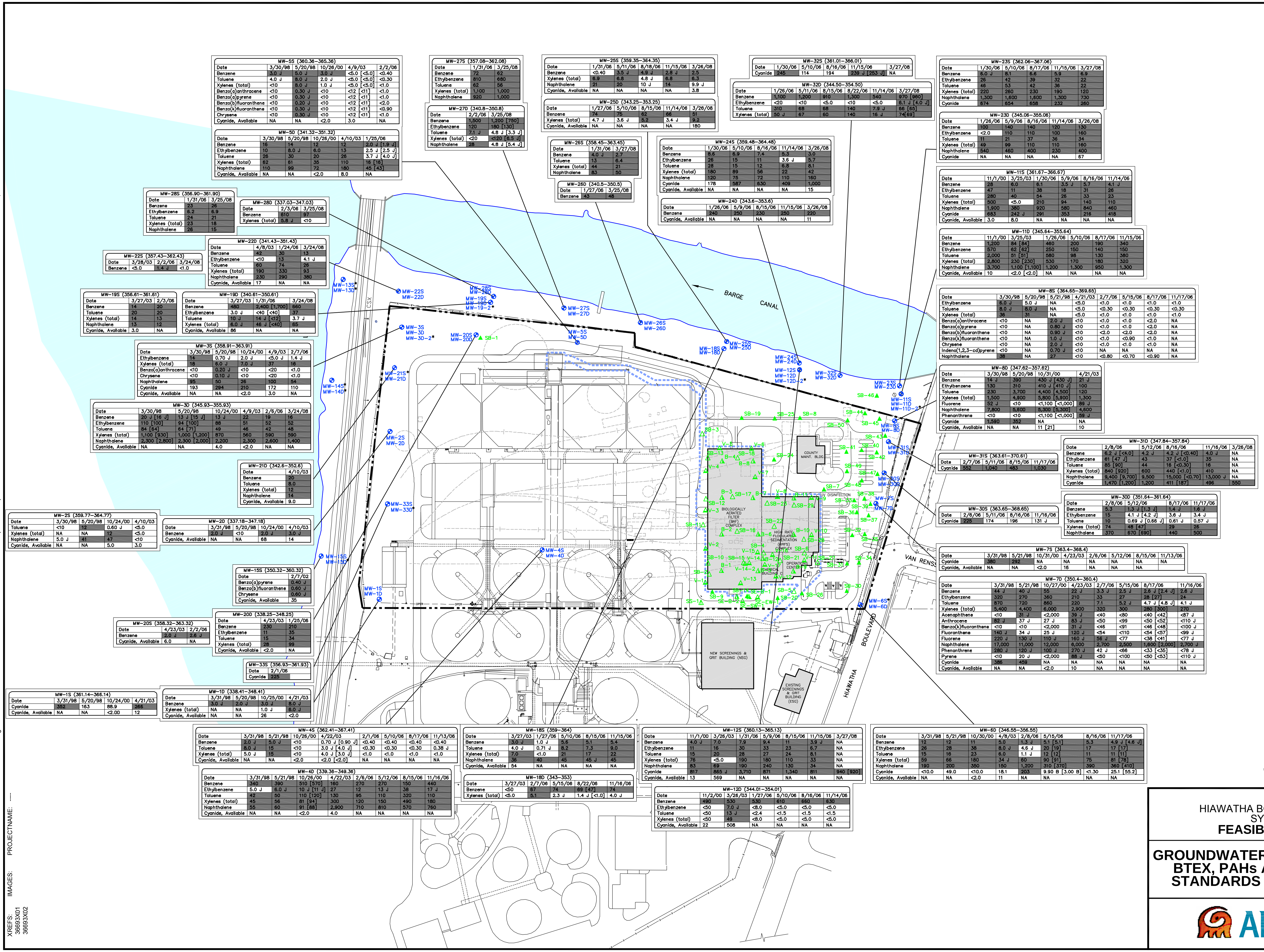
0 150' 300'
GRAPHIC SCALE

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP SITE
SYRACUSE, NEW YORK
FEASIBILITY STUDY REPORT

SITE LAYOUT AND SAMPLING LOCATIONS

ARCADIS

FIGURE
5



LEGEND:

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- SB-24 — SOIL BORING LOCATION
- SB-16 — SOIL BORING LOCATION WHERE SOIL WAS REMOVED AS PART OF THE INTERIM REMEDIAL MEASURE
- SS-1 — SURFACE SOIL SAMPLING LOCATION
- BOUNDARY OF FORMER MANUFACTURED GAS PLANT (MGP) SITE
- LIMITS OF SOIL REMOVAL IRM

NYSDEC TOGS 1.1.1

Constituent	Standard/Guidance Value
Benzene	1 (Standard)
Ethylbenzene	5 (Standard)
Toluene	5 (Standard)
Xylenes (total)	5 (Standard)
Acenaphthene	20 (Guidance Value)
Anthracene	50 (Guidance Value)
Benzo(a)anthracene	0.002 (Guidance Value)
Benzo(a)pyrene	0 (Standard)
Benzo(b)fluoranthene	0.002 (Guidance Value)
Benzo(k)fluoranthene	0.002 (Guidance Value)
Chrysene	0.002 (Guidance Value)
Fluoranthene	50 (Guidance Value)
Fluorene	50 (Guidance Value)
Indeno(1,2,3-cd)pyrene	0.002 (Guidance Value)
Naphthalene	10 (Guidance Value)
Phenanthrene	50 (Guidance Value)
Pyrene	50 (Guidance Value)
Cyanide	200 (Standard)
Cyanide, Available	– –

MW-5S (360.36–365.36)

Date	3/30/98	5/20/98	10/26/00	4/9/03	2/2/06
Benzene	3.0 J	5.0 J	3.0 J	<5.0 [<5.0]	<0.40
Toluene	4.0 J	8.0 J	2.0 J	<5.0 [<5.0]	<0.30
Xylenes (total)	<10	8.0 J	1.0 J	<5.0 [<5.0]	<1.0
Benzo(a)anthracene	<10	0.30 J	<10	<12 [<11]	<1.0
Benzo(a)pyrene	<10	0.30 J	<10	<12 [<11]	<1.0
Benzo(b)fluoranthene	<10	0.20 J	<10	<12 [<11]	<2.0
Benzo(k)fluoranthene	<10	0.30 J	<10	<12 [<11]	<0.90
Chrysene	<10	0.30 J	<10	<12 [<11]	<1.0
Cyanide, Available	NA	NA	<2.0	3.0	NA

MW-5D (341.32–351.32)

Date	3/30/98	5/20/98	10/26/00	4/10/03	1/25/06
Benzene	16	14	12	12	2.0 J [1.9 J]
Ethylbenzene	10	8.0 J	6.0	13	2.5 J [2.5 J]
Toluene	26	30	20	26	3.7 J [4.0 J]
Xylenes (total)	62	61	35	110	16 [18]
Naphthalene	110	99	72	180	45 [43]
Cyanide, Available	NA	NA	<2.0	8.0	NA

MW-27S (357.08–362.08)

Date	1/31/06	3/25/08
Benzene	72	62
Ethylbenzene	810	680
Toluene	62	56
Xylenes (total)	1,100	1,000
Naphthalene	920	1,000

MW-27D (340.8–350.8)

Date	2/2/06	3/25/08
Benzene	1,500	1,200 [750]
Ethylbenzene	120	180 [130]
Toluene	7.1 J	4.8 J [3.3 J]
Xylenes (total)	<20	<120 [6.5 J]
Naphthalene	28	4.8 J [5.4 J]

MW-25S (359.35–364.35)

Date	1/31/06	5/11/06	8/18/06	11/15/06	3/26/08
Benzene	<0.40	3.5 J	4.9 J	2.8 J	2.5
Xylenes (total)	8.9	6.8	4.8 J	6.8	6.3
Naphthalene	21	20	10 J	14	9.9 J
Cyanide, Available	NA	NA	NA	NA	3.8

MW-25D (343.25–353.25)

Date	1/27/06	5/10/06	8/15/06	11/14/06	3/26/08
Benzene	74	75	62	66	51
Xylenes (total)	4.7 J	3.6 J	5.2	3.4 J	9.2
Cyanide, Available	NA	NA	NA	NA	180

MW-32S (361.01–366.01)

Date	1/30/06	5/10/06	8/16/06	11/15/06	3/27/08
Cyanide	245	114	194	239 J [253 J]	NA

MW-32D (344.50–354.50)

Date	1/26/06	5/11/06	8/15/06	8/22/06	11/14/06	3/27/08
Benzene	1,100	1,200	910	1,300	540	970 [960]
Ethylbenzene	<20	<10	<5.0	<10	<5.0	6.1 J [4.0 J]
Toluene	310	68	68	140	7.9 J	66 [65]
Xylenes (total)	50 J	67	60	140	16 J	74 [69]

MW-23S (362.06–367.06)

Date	1/30/06	5/10/06	8/17/06	11/15/06	3/27/08
Benzene	6.0 J	8.1	6.6	5.9	6.9
Ethylbenzene	26	42	39	32	22
Toluene	46	53	42	36	22
Xylenes (total)	220	260	230	190	120
Naphthalene	1,300	1,800	1,600	1,300	730
Cyanide	674	854	658	232	260

MW-23D (345.06–355.06)

Date	1/26/06	5/9/06	8/16/06	11/14/06	3/26/08
Benzene	109	140	140	120	130
Ethylbenzene	<2.0	110	110	100	160
Toluene	11	21	37	35	34
Xylenes (total)	49	99	110	110	160
Naphthalene	540	460	400	230	400
Cyanide	NA	NA	NA	NA	67

MW-28S (356.90–361.90)

Date	1/31/06	3/25/08
Benzene	23	26
Ethylbenzene	6.2	6.9
Toluene	24	21
Xylenes (total)	23	18
Naphthalene	26	15

MW-28D (337.03–347.03)

Date	2/3/06	3/25/08
Benzene	610	97
Xylenes (total)	5.8 J	<10

MW-26S (358.45–363.45)

Date	1/31/06	3/27/08
Benzene	4.0 J	2.7
Toluene	13	6.4
Xylenes (total)	44	21
Naphthalene	83	50

MW-26D (340.5–350.5)

Date	1/27/06	3/25/08
Benzene	43	48

MW-24S (359.48–364.48)

Date	1/30/06	5/10/06	8/16/06	11/14/06	3/26/08
Benzene	8.6	6.9	7.4	5.3	3.0
Ethylbenzene	26	15	11	3.6 J	5.7
Toluene	28	15	12	6.8	8.1
Xylenes (total)	180	89	56	22	42
Naphthalene	120	75	72	110	160
Cyanide	178	587	630	409	1,000
Cyanide, Available	NA	NA	NA	NA	15

MW-24D (343.6–353.6)

Date	1/26/06	5/9/06	8/15/06	11/15/06	3/26/08
Benzene	240	250	230	250	220
Cyanide, Available	NA	NA	NA	NA	11

MW-11S (361.67–366.67)

Date	11/1/00	3/25/03	1/30/06	5/9/06	8/16/06	11/14/06
Benzene	28	6.0	6.1	3.5 J	5.7	4.1 J
Ethylbenzene	47	11	38	18	31	26
Toluene	280	40	54	26	33	23
Xylenes (total)	500	<5.0	210	94	140	110
Naphthalene	1,900	380	920	580	840	460
Cyanide	683	242 J	291	353	216	418
Cyanide, Available	3.0	8.0	NA	NA	NA	NA

MW-11D (345.64–355.64)

Date	11/1/00	3/25/03	1/26/06	5/10/06	8/17/06	11/15/06
Benzene	1,200	84 [84]	460	200	190	340
Ethylbenzene	570	62 [62]	250	150	140	150
Toluene	2,000	51 [51]	580	98	130	380
Xylenes (total)	2,800	230 [230]	530	170	180	320
Naphthalene	3,700	1,100 [1,100]	1,200	1,300	950	1,300
Cyanide, Available	10	<2.0 [<2.0]	NA	NA	NA	NA

MW-22S (357.43–362.43)

Date	3/28/03	2/2/06	3/24/08
Benzene	<5.0	1.4 J	<1.0

MW-22D (341.43–351.43)

Date	4/8/03	1/24/06	3/24/08
Benzene	42	30	13
Ethylbenzene	<10	13	4.1 J
Toluene	60	74	26
Xylenes (total)	190	330	93
Naphthalene	230	290	380
Cyanide, Available	17	NA	NA

MW-19S (356.61–361.61)

Date	3/27/03	2/3/06
Benzene	14	20
Toluene	20	20
Xylenes (total)	14	13
Naphthalene	13	12
Cyanide, Available	3.0	NA

MW-19D (340.61–350.61)

Date	3/27/03	1/31/06	3/24/08
Benzene	480	2,400 [1,700]	660
Ethylbenzene	3.0 J	<40 [<40]	37
Toluene	10 J	14 J [<12]	3.7 J
Xylenes (total)	6.0 J	46 J [<40]	65
Cyanide, Available	86	NA	NA

MW-3S (358.91–363.91)

Date	3/30/98	5/20/98	10/24/00	4/9/03	2/7/06
Ethylbenzene	14	0.70 J	2.0 J	<5.0 J	1.4 J
Xylenes (total)	18	6.0 J	7.0 J	37	16
Benzo(a)anthracene	<10	0.20 J	<10	<20	<1.0
Chrysene	<10	0.10 J	<10	<20	<1.0
Naphthalene	95	50	26	100	54
Cyanide	193	294	210	172	110
Cyanide, Available	NA	NA	<2.0	3.0	NA

MW-3D (345.93–355.93)

Date	3/30/98	5/20/98	10/24/00	4/9/03	2/6/06	3/24/08
Benzene	20 J [16 J]	13 J [15 J]	13 J	22	19	16
Ethylbenzene	110 [100]	94 [100]	88	51	52	52
Toluene	84 [64]	64 [71]	49	46	42	48
Xylenes (total)	1,100 [930]	1,000 [1,200]	870	560	590	590
Naphthalene	2,300 [2,800]	2,300 [2,000]	2,200	2,300	2,600	1,400
Cyanide, Available	NA	NA	4.0	<2.0	NA	NA

MW-21D (342.6–352.6)

Date	4/10/03
Benzene	20
Toluene	8.0
Xylenes (total)	12
Naphthalene	14
Cyanide, Available	9.0

MW-2S (359.77–364.77)

Date	3/30/98	5/20/98	10/24/00	4/10/03
Toluene	<10	12	0.60 J	<5.0
Xylenes (total)	NA	NA	12	<5.0
Naphthalene	5.0 J	41	47	<10
Cyanide, Available	NA	NA	5.0	3.0

MW-2D (337.18–347.18)

Date	3/31/98	5/20/98	10/24/00	4/10/03
Benzene	2.0 J	<10	2.0 J	3.0 J
Cyanide, Available	NA	NA	68	14

MW-15S (350.32–360.32)

Date	2/7/02
Benzo(a)pyrene	0.40 J
Benzo(b)fluoranthene	0.60 J
Chrysene	0.60 J
Cyanide, Available	35

MW-20S (358.32–363.32)

Date	4/23/03	2/2/06
Benzene	2.0 J	2.6 J
Cyanide, Available	6.0	NA

MW-20D (338.25–348.25)

Date	4/23/03	1/25/06
Benzene	230	210
Ethylbenzene	11	35
Toluene	15	34
Xylenes (total)	28	99
Cyanide, Available	<2.0	NA

MW-33S (356.93–361.93)

Date	2/1/06
Cyanide	225

MW-1S (361.14–366.14)

Date	3/31/98	5/20/98	10/24/00	4/21/03
Cyanide	352	163	88.9	266
Cyanide, Available	NA	NA	<2.00	12

MW-1D (338.41–348.41)

Date	3/31/98	5/20/98	10/25/00	4/21/03
Benzene	3.0 J	2.0 J	3.0 J	8.0 J
Xylenes (total)	NA	NA	1.0 J	6.0 J
Cyanide, Available	NA	NA	26	<2.0

MW-4S (362.41–367.41)

Date	3/31/98	5/21/98	10/26/00	4/22/03	2/1/06	5/10/06	8/17/06	11/13/06
Benzene	2.0 J	5.0 J	<10	0.70 J [0.90 J]	<0.40	<0.40	<0.40	<0.40
Toluene	8.0 J	15	<10	3.0 J [4.0 J]	<0.30	<0.30	<0.30	0.38 J
Xylenes (total)	5.0 J	15	<10	4.0 J [3.0 J]	<1.0	<1.0	<1.0	<1.0
Cyanide, Available	NA	NA	<2.0	<2.0 [<2.0]	NA	NA	NA	NA

MW-4D (339.36–349.36)

Date	3/31/98	5/21/98	10/26/00	4/22/03	2/6/06	5/12/06	8/15/06	11/16/06
Benzene	340	390	510 [570]	160	270	270	150	440
Ethylbenzene	5.0 J	6.0 J	10 J [11 J]	27	12	13 J	38	17 J
Toluene	42	50	110 [120]	130	95	110	320	110
Xylenes (total)	45	56	81 [94]	300	120	150	490	180
Naphthalene	55	60	91 [88]	2,900	710	810	570	760
Cyanide, Available	NA	NA	<2.0	4.0	NA	NA	NA	NA

MW-18S (359–364)

Date	3/27/03	1/27/06	5/10/06	8/15/06	11/15/06
Benzene	3.0 J	1.0 J	5.6	5.1	5.4
Toluene	4.0 J	0.71 J	8.2	7.3	9.0
Xylenes (total)	7.0	<1.0	21	17	22
Naphthalene	36	40	45	45 J	45
Cyanide, Available	54	NA	NA	NA	NA

MW-18D (343–353)

Date	3/27/03	2/7/06	5/15/06	8/22/06	11/16/06
Benzene	<50	67	74	69 [47]	74
Xylenes (total)	<5.0	5.1	2.3 J	1.4 J [<1.0]	4.0 J

MW-12S (360.13–365.13)

Date	11/1/00	3/26/03	1/31/06	5/9/06	8/15/06	11/15/06	3/27/08
Benzene	4.0 J	7.0	7.9	9.4	11	3.9 J	NA
Ethylbenzene	11	16	30	33	23	6.7	NA
Toluene	15	20	28	27	24	8.1	NA
Xylenes (total)	76	<5.0	190	180	110	33	NA
Naphthalene	83	69	190	240	130	34	NA
Cyanide	817	865 J	3,710	871	1,340	811	940 [920]
Cyanide, Available	13	569	NA	NA	NA	NA	NA

MW-12D (344.01–354.01)

Date	11/2/00	3/26/03	1/27/06	5/10/06	8/16/06	11/14/06
Benzene	490	530	530	610	660	630
Ethylbenzene	<50	7.0 J	<8.0	<5.0	<5.0	<5.0
Toluene	<50	13 J	<2.4	<1.5	<1.5	<1.5
Xylenes (total)	<50	49	<8.0	<5.0	<5.0	<5.0
Cyanide, Available	22	508	NA	NA	NA	NA

MW-6D (346.55–356.55)

Date	3/31/98	5/21/98	10/30/00	4/8/03	2/8/06	5/15/06	8/16/06	11/17/06
Benzene	12	12	11	5.0	1.3 J	5.1 [5.1]	5.3	4.9 J [4.6 J]
Ethylbenzene	26	28	38	8.0 J	4.6 J	20 [19]	17	17 [17]
Toluene	15	16	23	6.0	1.1 J	12 [12]	11	11 [11]
Xylenes (total)	59	66	180	34 J	60	90 [91]	75	81 [78]
Naphthalene	190	200	350	150	1,200	310 [370]	390	360 [410]
Cyanide	<10.0	49.0	<10.0	18.1	203	9.90 B [3.00 B]	<1.30	25.1 [55.2]
Cyanide, Available	NA	NA	<2.0	11	NA	NA	NA	NA

MW-8S (364.65–369.65)

Date	3/30/98	5/20/98	5/21/98	4/21/03	2/7/06	5/15/06	8/17/06	11/17/06
Ethylbenzene	6.0 J	5.0 J	NA	<5.0	<1.0	<1.0	<1.0	<1.0
Toluene	8.0 J	8.0 J	NA	<5.0	<0.30	<0.30	<0.30	<0.30
Xylenes (total)	36	31	NA	<5.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthracene	<10	NA	2.0 J	<10	<1.0	<1.0	<2.0	NA
Benzo(a)pyrene	<10	NA	0.80 J	<10	<1.0	<1.0	<2.0	NA
Benzo(b)fluoranthene	<10	NA	0.90 J	<10	<2.0	<2.0	<2.0	NA
Benzo(k)fluoranthene	<10	NA	1.0 J	<10	<1.0	<0.90	<1.0	NA
Chrysene	<10	NA	2.0 J	<10	<1.0	<1.0	<1.0	NA
Indeno(1,2,3-cd)pyrene	<10	NA	0.70 J	<10	NA	NA	NA	NA
Naphthalene	38	NA	27	<10	<0.80	<0.70	<0.90	NA

MW-8D (347.62–357.62)

Date	3/30/98	5/20/98	10/31/00	4/21/03
Benzene	14 J	390	430 J [430 J]	21 J
Ethylbenzene	130	310	410 J [410 J]	100
Toluene	230	3,700	4,400 [4,500]	120
Xylenes (total)	1,500	4,900	5,800 [5,900]	1,300
Fluorene	52 J	<10	<1,100 [<1,000]	89 J
Naphthalene	7,800	5,600	5,300 [5,300]	4,600
Phenanthrene	<10	<10	<1,100 [<1,000]	59 J
Cyanide	1,590	352	NA	NA
Cyanide, Available	NA	NA	11 [21]	10

MW-31S (363.61–370.61)

Date	2/7/06	5/11/06	8/15/06	11/17/06
Cyanide	552	1,040	483	1,030

MW-31D (347.84–357.84)

Date	2/8/06	5/12/06	8/16/06	11/16/06	3/26/08
Benzene	6.2 J [<4.0]	4.2 J	4.2 J [<0.40]	4.0 J	NA
Ethylbenzene	61 [47 J]	43	37 [<1.0]	35	NA
Toluene	85 [90]	44	16 [<0.30]	16	NA
Xylenes (total)	840 [920]	600	440 [<1.0]	410	NA
Naphthalene	9,400 [9,700]	9,500	15,000 [<0.70]	13,000 J	NA
Cyanide	1,470 [1,200]	1,200	411 [187]	496	550

MW-30S (363.65–368.65)

Date	2/6/06	5/11/06	8/16/06	11/16/06
Cyanide	225	174	196	131 J

MW-30D (351.64–361.64)

Date	2/8/06	5/12/06	8/17/06	11/17/06
Benzene	5.3	1.3 J [1.3 J]	1.4 J	1.6 J
Ethylbenzene	15	4.1 J [4.2 J]	3.6 J	3.4 J
Toluene	10	0.69 J [0.66 J]	0.61 J	0.57 J
Xylenes (total)	74	48 [47]	29	26
Naphthalene	370	670 [690]	440	500

MW-7S (363.4–368.4)

Date	3/31/98	5/21/98	10/31/00	4/23/03	2/6/06	5/12/06	8/15/06	11/13/06
Cyanide	380	292	NA	NA	NA	NA	NA	NA
Cyanide, Available	NA	NA	<2.0	16	NA	NA	NA	

MW-7D (350.4–360.4)

Date	3/31/98	5/21/98	10/27/00	4/23/03	2/7/06	5/15/06	8/17/06	11/16/06
Benzene	44 J	40 J	55	22 J	3.3 J	2.5 J	2.6 J [2.4 J]	2.6 J
Ethylbenzene	320	270	360	210	33	27	28 [27]	24
Toluene	870	720	860	220	7.1	5.2 J	4.7 J [4.8 J]	4.1 J
Xylenes (total)	5,400	4,400	6,000	2,900	320	300	280 [300]	270
Acenaphthene	<10	31 J	<2,000	39 J	<40	<80	<40 [<42]	<87 J
Anthracene	82 J	37 J	27 J	83 J	<50	<99	<50 [<52]	<110 J
Benzo(k)fluoranthene	<10	<10	<2,000	31 J	<46	<91	<46 [<48]	<100 J
Fluoranthene	140 J	34 J	25 J	120 J	<54	<110	<54 [<57]	<99 J
Fluorene	220 J	130 J	110 J	160 J	56 J	<77	<38 [<41]	<77 J
Naphthalene	17,000	11,000	12,000	6,000	2,700	2,500	1,600 [2,000]	2,700 J
Phenanthrene	280 J	120 J	100 J	270 J	42 J	<66	<33 [<35]	<78 J
Pyrene	<10	20 J	<2,000	88 J	<50	<100	<50 [<53]	<110 J
Cyanide	386	459	NA	NA	NA	NA	NA	NA
Cyanide, Available	NA	NA	<2.0	10	NA	NA	NA	NA

NOTES:

1. BASE MAP DEVELOPED FROM FIGURE TITLED "SITE PLAN" FOR THE METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT STAGE III AMMONIA AND STAGE II PHOSPHOROUS REMOVAL PROJECT, PREPARED BY ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP, DATED APRIL 2001 (FIGURE NO. G-008).
2. MONITORING WELL LOCATIONS ARE BASED ON SURVEY PERFORMED BY BRYANT ASSOCIATES OF SYRACUSE, NEW YORK.
3. SOIL BORING AND SURFACE SOIL SAMPLING LOCATIONS ARE APPROXIMATE.
4. BOUNDARY OF FORMER MGP SITE FROM FIGURE TITLED "PROPERTY PLAN, THE SYRACUSE LIGHTING COMPANY, INC., HIAWATHA STREET PROPERTY & ADJOINING LANDS," AT A SCALE OF 1"=50" UNDATED.
5. STANDARDS/GUIDANCE VALUES = GROUNDWATER STANDARDS/GUIDANCE VALUES FOR CLASS GA WATER AS PRESENTED IN THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1, DATED JUNE 1998, UPDATED APRIL 2000 AND JUNE 2004.
6. FIGURE SHOWS GROUNDWATER ANALYTICAL RESULTS FOR SAMPLING LOCATIONS WHERE ONE OR MORE BTEX CONSTITUENTS, PAHs, OR CYANIDE WERE IDENTIFIED AT CONCENTRATIONS EXCEEDING THE STANDARDS/GUIDANCE VALUES. FIGURE ALSO SHOWS RESULTS FOR AVAILABLE CYANIDE, WHERE DETECTED.
7. SHADING INDICATES THAT THE VALUE EXCEEDS THE NYSDEC TOGS 1.1.1 STANDARD GUIDANCE VALUE.
8. * = ALL BTEX, PAH, AND CYANIDE ANALYTICAL RESULTS FOR THE SAMPLING LOCATIONS MARKED BY AN ASTERISK WERE LESS THAN THE NYSDEC GROUNDWATER QUALITY STANDARDS AND GUIDANCE VALUES.
9. ALL CONCENTRATIONS ARE PRESENTED IN PARTS PER BILLION (ppb), WHICH IS EQUIVALENT TO MICROGRAMS PER LITER (ug/L).
10. FIELD DUPLICATE VALUES ARE PRESENTED IN BRACKETS [ ].
11. J = INDICATES THAT THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION.
12. < = CONSTITUENT NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTED DETECTION LIMIT.
13. BTEX = BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES.
14. PAHs = POLYCYCLIC AROMATIC HYDROCARBONS.
15. THE 2008 GROUNDWATER ANALYTICAL DATA HAS NOT BEEN VALIDATED.
16. DATA IN PARENTHESIS AFTER WELL ID INDICATES SCREEN INTERVAL ELEVATION IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP SITE
SYRACUSE, NEW YORK
FEASIBILITY STUDY REPORT

GROUNDWATER ANALYTICAL RESULTS FOR BTEX, PAHs AND CYANIDE EXCEEDING STANDARDS / GUIDANCE VALUES (ppb)

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FIGURE
6

CITY: SYR DIV/GROUP: 141/ENV DB: RCB WLJ KMD LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF* PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 4/30/2009 11:25 AM BY: JONES, WENDY
G:\ENVCAD\SYRACUSE\ACT\B0036693\0001\00003\DWG\36693B12.dwg LAYOUT: 8 SAVED: 4/30/2009 10:03 AM ACADVER: 17.0S (LMS TECH)
XREFS: 36693X01 36693X02 IMAGES: PROJECTNAME: ----

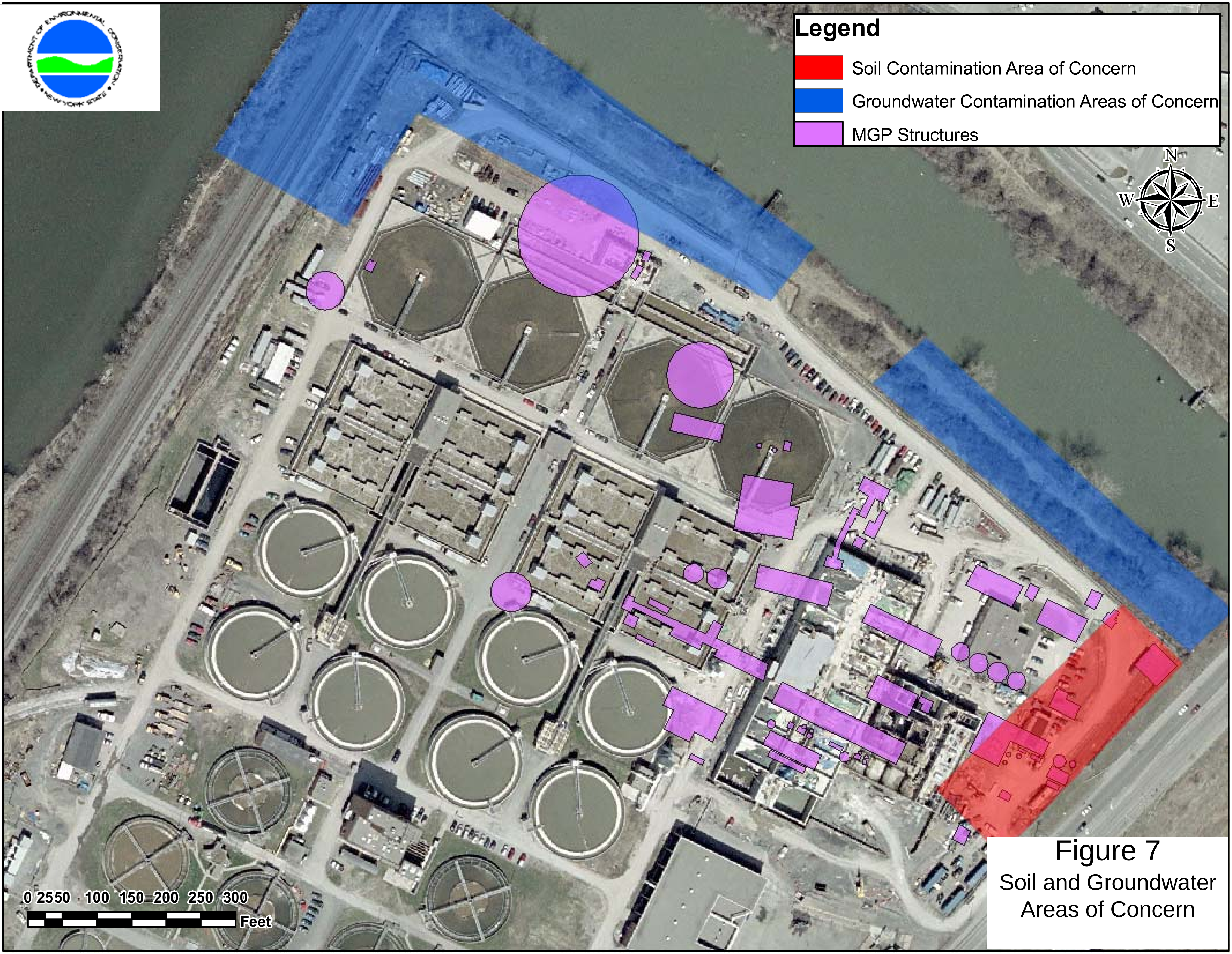
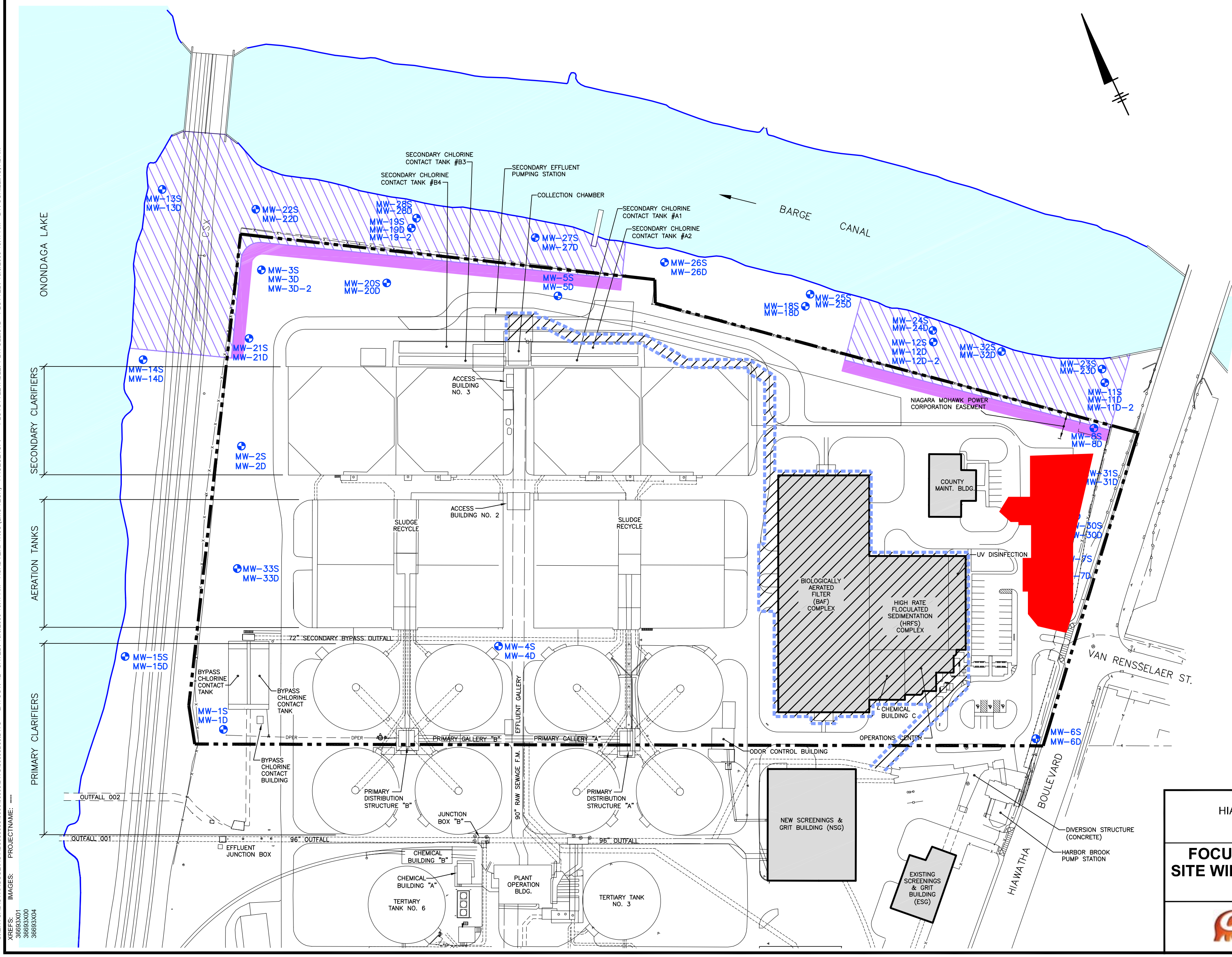


Figure 7
Soil and Groundwater Areas of Concern



LEGEND:

- APPROXIMATE EXTENT OF ENHANCED BIOREMEDIATION TREATMENT
- PROPOSED ISS LIMITS
- MW-1D — EXISTING MONITORING WELL LOCATION
- LIMITS OF SOIL REMOVAL IRM
- BOUNDARY OF FORMER MANUFACTURED GAS PLANT (MGP) SITE
- EXISTING BUILDINGS
- APPROXIMATE EXTENT OF SOIL REMOVED DURING SOIL REMOVAL IRM

NOTES:

1. BASE MAP DEVELOPED FROM FIGURE TITLED "SITE PLAN" FOR THE METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT STAGE III AMMONIA AND STAGE II PHOSPHOROUS REMOVAL PROJECT, PREPARED BY ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP, DATED APRIL 2001 (FIGURE NO. G-008).
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3. SOIL BORING, SURFACE SOIL, SOIL REMOVAL IRM POST-EXCAVATION BOTTOM AND SIDE WALL SAMPLING LOCATIONS ARE APPROXIMATE.
4. BOUNDARY OF FORMER MGP SITE FROM FIGURE TITLED "PROPERTY PLAN, THE SYRACUSE LIGHTING COMPANY, INC., HIAWATHA STREET PROPERTY & ADJOINING LANDS," AT A SCALE OF 1"=50" UNDATED.
5. IRM = INTERIM REMEDIAL MEASURE.
6. LOCATION OF TREATMENT MAY BE MODIFIED BASED ON THE RESULTS OF BENCH-SCALE AND PILOT STUDIES.

0 150' 300'
GRAPHIC SCALE

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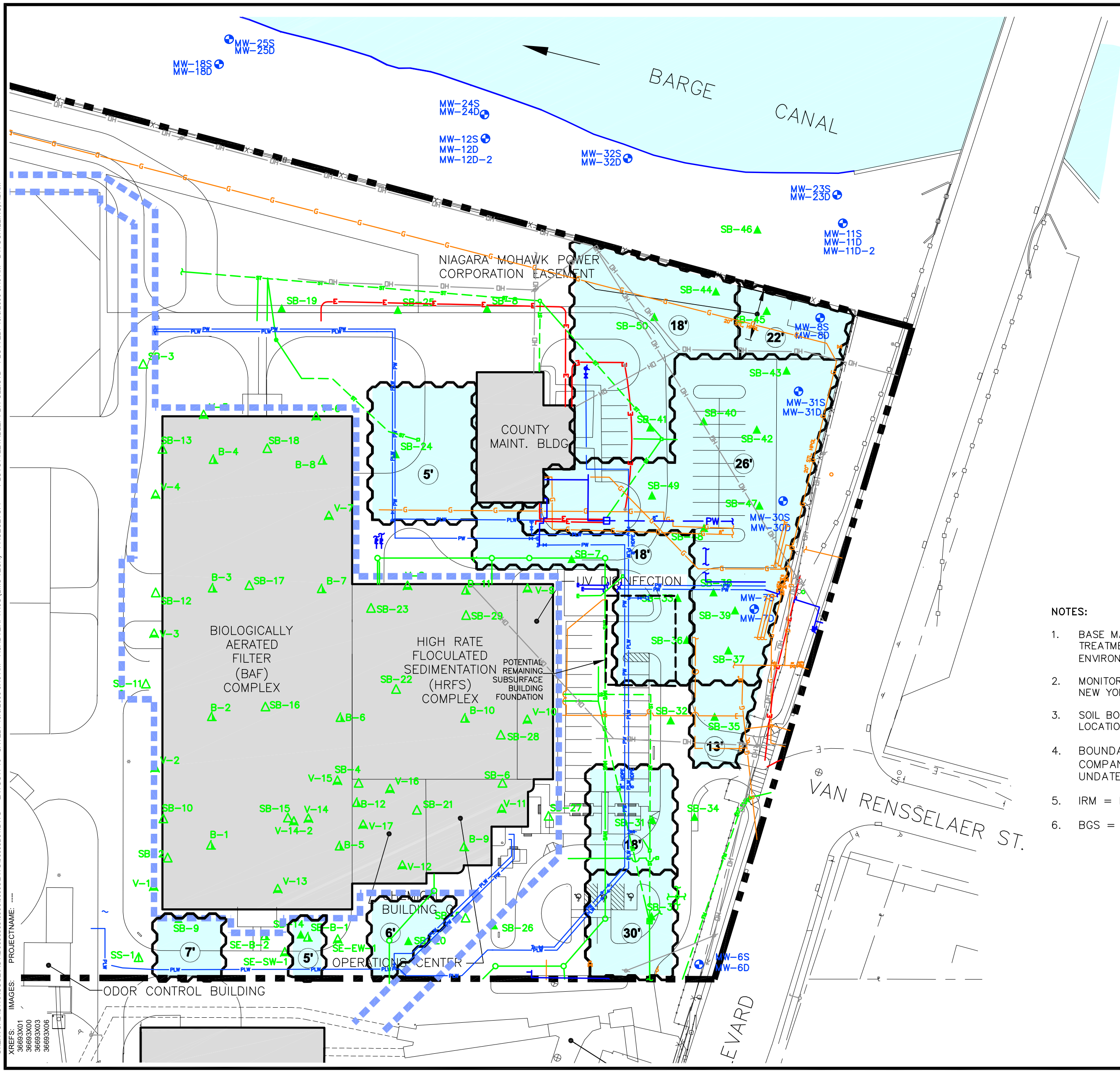
SYRACUSE, NEW YORK
FEASIBILITY STUDY REPORT

FOCUSED SOIL STABILIZATION AND SITE WIDE ENHANCED BIOREMEDIATION TREATMENT

ARCADIS

FIGURE
8



LEGEND:

- MW-1D — EXISTING MONITORING WELL LOCATION
- SB-24 — SOIL BORING LOCATION
- SB-16 — SOIL BORING LOCATION WHERE SOIL WAS REMOVED AS PART OF THE INTERIM REMEDIAL MEASURE
- SS-1 — SURFACE SOIL SAMPLING LOCATION
- V-7 — SOIL REMOVAL IRM POST-EXCAVATION SIDE WALL SAMPLE
- B-10 — SOIL REMOVAL IRM POST-EXCAVATION BOTTOM SAMPLE
- LIMITS OF SOIL REMOVAL IRM
- BOUNDARY OF FORMER MANUFACTURED GAS PLANT (MGP) SITE
- EXISTING BUILDINGS
- PROPOSED EXCAVATION LIMITS
- APPROXIMATE LOCATION OF EXCAVATION BRACING
- 5' — APPROXIMATE DEPTH OF EXCAVATION (FEET BGS)
- POTABLE WATER
- PLANT WATER
- ELECATRIC
- SANITARY SEWER
- SANITARY SEWER FORCE MAIN
- STORM SEWER
- NATURAL GAS
- OVERHEAD UTILITIES
- CATCH BASINCS
- MANHOLES

NOTES:

1. BASE MAP DEVELOPED FROM FIGURE TITLED "SITE PLAN" FOR THE METROPOLITAN SYRACUSE WASTEWATER TREATMENT PLANT STAGE III AMMONIA AND STAGE II PHOSPHOROUS REMOVAL PROJECT, PREPARED BY ENVIRONMENTAL ENGINEERING ASSOCIATES, LLP, DATED APRIL 2001 (FIGURE NO. G-008).
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5. IRM = INTERIM REMEDIAL MEASURE.
6. BGS = BELOW GROUND SURFACE.

0 80' 160'

GRAPHIC SCALE

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP SITE
SYRACUSE, NEW YORK
FEASIBILITY STUDY REPORT

LIMITS OF REMOVAL FOR SOIL EXCEEDING INDUSTRIAL SCOs

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FIGURE
9

APPENDIX II

TABLES

Table 1- Soil Analytical Results

Soils Analytical Results For Detected VOCs, SVOCs, Inorganic Constituents, PCBs, and Pesticides (ppm)

Following Pages 1 thru 53

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-1			SB-2		SB-3	SB-4				SB-5		SB-6		SB-7		
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	10 - 12	16 - 18	22 - 24	12 - 14	14 - 16	14 - 16	12 - 14	14 - 16	30 - 32	38 - 40	4 - 6	20 - 22	8 - 10	22 - 24	12 - 14	14 - 16	20 - 22
Date Collected:			02/19/98	02/19/98	02/19/98	07/13/95	07/13/95	02/27/98	07/13/95	07/13/95	07/13/95	07/13/95	07/14/95	07/14/95	07/18/95	07/18/95	02/26/98	02/26/98	02/26/98
X = Soil Removed During IRM:						X	X	X	X	X			X		X				
Volatile Organics																			
2-Butanone	0.12	1,000	NA	<0.010	NA	<0.010	NA	<0.010	NA	<1.2	NA	NA	<0.010	NA	<1.2	NA	NA	NA	<0.010
Acetone	0.05	1,000	NA	0.021 B	NA	0.038	NA	**0.053**	NA	**53 B**	NA	NA	0.021	NA	**33 B**	NA	NA	NA	**0.25 B**
Benzene	0.06	89	0.0040 J	0.017	**0.79**	<0.010	<0.010	<0.010	**9.5**	**30**	**0.58 J**	0.022	<0.010	<0.010	<1.2	<1.2	<0.010	0.0080 J	<0.010
Carbon Disulfide	- -	- -	NA	<0.010	NA	<0.010	NA	<0.010	NA	<1.2	NA	NA	<0.010	NA	<1.2	NA	NA	NA	0.015 J
Chlorobenzene	1.1	1,000	NA	<0.010	NA	<0.010	NA	<0.010	NA	<1.2	NA	NA	<0.010	NA	<1.2	NA	NA	NA	<0.010
Chloroform	0.37	700	NA	<0.010	NA	<0.010	NA	<0.010	NA	<1.2	NA	NA	<0.010	NA	<1.2	NA	NA	NA	<0.010
Ethylbenzene	1	780	0.0040 J	0.024	<0.010	<0.010	<0.010	<0.010	**2.6**	**11**	<1.2	0.0020 J	<0.010	0.040	<1.2	<1.2	0.35	0.30	0.097 J
Methylene Chloride	0.05	1,000	NA	<0.010	NA	<0.010	NA	<0.010	NA	**4.9**	NA	NA	<0.010	NA	**2.0 J**	NA	NA	NA	<0.010
Styrene	- -	- -	NA	<0.010	NA	<0.010	NA	<0.010	NA	51	NA	NA	<0.010	NA	<1.2	NA	NA	NA	0.076 J
Tetrachloroethene	1.3	300	NA	<0.010	NA	<0.010	NA	<0.010	NA	<1.2	NA	NA	<0.010	NA	<1.2	NA	NA	NA	<0.010
Toluene	0.7	1,000	0.0030 J	0.063	<0.010	0.0040 J	<0.010	0.00080 J	**11**	**76**	**1.6**	0.030	0.0090 J	0.079	<1.2	<1.2	0.18	0.20	<0.010
Xylenes (total)	0.26	1,000	0.011 J	0.13	<0.010	<0.010	<0.010	<0.010	**62**	**140 E**	**2.0**	0.031	<0.010	**0.30**	<1.2	**0.86 J**	**7.6**	**5.9 E**	**2.0**
Total BTEX	- -	- -	0.022 J	0.23	0.79	0.0040 J	<0.010	0.00080 J	85	260	4.2 J	0.085 J	0.0090 J	0.42	<1.2	0.86 J	8.1	6.4 J	2.1 J
Total VOCs	- -	- -	0.022 J	0.26	0.79	0.042 J	<0.010	0.054 J	85	370	4.2 J	0.085 J	0.030 J	0.42	35 J	0.86 J	8.1	6.4 J	2.4 J
Semivolatile Organics																			
2,4-Dimethylphenol	- -	- -	NA	<0.33	NA	0.023 J	NA	<0.33	NA	17 J	NA	NA	<0.33	NA	<0.33	NA	NA	NA	<0.33
2-Chloronaphthalene	- -	- -	NA	<0.33	NA	<0.33	NA	0.036 J	NA	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	<0.33
2-Methylnaphthalene	- -	- -	0.026 J	0.041 J	<0.33	0.14 J	<0.33	0.029 J	120	280	3.1	0.12 J	<0.33	0.62	100 J	2.1 J	75	29	7.4
2-Methylphenol	0.33	1,000	NA	<0.33	NA	0.024 J	NA	<0.33	NA	**12 J**	NA	NA	<0.33	NA	<0.33	NA	NA	NA	<0.33
3,3'-Dichlorobenzidine	- -	- -	NA	<0.33	NA	<0.33	NA	<0.33	NA	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	<0.33
4-Methylphenol	0.33	1,000	NA	<0.33	NA	0.070 J	NA	<0.33	NA	**25 J**	NA	NA	<0.33	NA	<0.33	NA	NA	NA	<0.33
4-Nitroaniline	- -	- -	NA	<0.80	NA	<0.80	NA	<0.80	NA	<0.80	NA	NA	<0.80	NA	<0.80	NA	NA	NA	<0.80
Acenaphthene	20	1,000	<0.33	<0.33	<0.33	0.079 J	<0.33	<0.33	**86 J**	**23 J**	0.26 J	<0.33	<0.33	0.047 J	**40 J**	0.088 J	5.4 J	2.6 J	0.17 J
Acenaphthylene	100	1,000	<0.33	0.020 J	<0.33	0.10 J	<0.33	<0.33	**150 J**	**170**	1.8 J	0.059 J	0.046 J	0.16 J	**110 J**	0.46 J	39	16	3.7 J
Anthracene	100	1,000	0.056 J	0.069 J	<0.33	0.30 J	<0.33	0.018 J	**150 J**	**120 J**	1.4 J	0.057 J	0.064 J	0.040 J	**190**	0.24 J	23	8.8 J	<0.33
Benzo(a)anthracene	1	11	0.10 J	0.17 J	<0.33	0.46 J	<0.33	0.022 J	**120 J**	**80 J**	0.92 J	0.042 J	0.33 J	0.061 J	**190**	0.23 J	**12 J**	**4.5 J**	<0.33
Benzo(a)pyrene	0	1.1	**0.084 J**	**0.13 J**	<0.33	**0.64 J**	<0.33	**0.27 J**	**76 J**	**53 J**	**0.64 J**	**0.030 J**	**0.40 J**	**0.081 J**	**120 J**	**0.15 J**	**8.3 J**	**3.3 J**	<0.33
Benzo(b)fluoranthene	1	11	0.067 J	0.12 J	<0.33	0.54 J	<0.33	0.022 J	**55 J**	**41 J**	0.39 J	0.024 J	0.38 J	0.062 J	**100 J**	0.11 J	**6.3 J**	**2.6 J**	<0.33
Benzo(g,h,i)perylene	100	1,000	0.080 J	0.087 J	<0.33	0.14 J	<0.33	0.076 J	12 J	9.1 J	0.099 J	0.0070 J	0.14 J	0.12 J	27 J	0.047 J	2.4 J	0.89 J	<0.33
Benzo(k)fluoranthene	0.8	110	0.089 J	0.14 J	<0.33	0.43 J	<0.33	0.038 J	**87 J**	**50 J**	0.64 J	0.025 J	0.40 J	0.070 J	**120 J**	0.16 J	**9.2 J**	**3.7 J**	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	0.62 B	0.62 B	NA	0.40 JB	NA	0.12 JB	NA	0.14 JB	NA	NA	0.47 JB	NA	<0.33	NA	NA	NA	<0.33
Butylbenzylphthalate	- -	- -	NA	<0.33	NA	<0.33	NA	<0.33	NA	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	<0.33
Carbazole	- -	- -	NA	0.031 J	NA	0.23 J	NA	0.084 J	NA	110 J	NA	NA	0.019 J	NA	49 J	NA	NA	NA	2.0 J
Chrysene	1	110	0.10 J	0.17 J	<0.33	0.53 J	<0.33	0.036 J	**99 J**	**66 J**	0.76 J	0.042 J	0.39 J	0.066 J	**170**	0.21 J	**9.8 J**	**3.8 J**	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	<0.33	<0.33	<0.33	0.13 J	<0.33	<0.33	**18 J**	**12 J**	0.14 J	0.0070 J	0.11 J	0.022 J	**37 J**	<0.33	**1.4 J**	**0.52 J**	<0.33
Dibenzofuran	7	1,000	NA	0.030 J	NA	0.22 J	NA	0.040 J	NA	**100 J**	NA	NA	<0.33	NA	**200**	NA	NA	NA	0.42 J
Diethylphthalate	- -	- -	NA	<0.33	NA	0.020 JB	NA	<0.33	NA	<0.33	NA	NA	0.24 JB	NA	<0.33	NA	NA	NA	<0.33
Di-n-Butylphthalate	- -	- -	NA	<0.33	NA	0.12 JB	NA	0.016 JB	NA	<0.33	NA	NA	0.071 JB	NA	<0.33	NA	NA	NA	<0.33
Fluoranthene	100	1,000	0.28 J	0.38 J	<0.33	0.74	<0.33	0.059 J	**340**	**220**	2.4	0.10 J	0.51 J	0.098 J	**520**	0.55 J	33	13	<0.33
Fluorene	30	1,000	0.020 J	0.031 J	<0.33	0.20 J	<0.33	0.018 J	**200**	**130 J**	1.3 J	0.048 J	<0.33	0.17 J	**270**	0.32 J	**34**	12	0.30 J
Indeno(1,2,3-cd)pyrene	0.5	11	0.048 J	0.093 J	<0.33	0.33 J	<0.33	0.13 J	**39 J**	**24 J**	0.30 J	0.016 J	0.27 J	0.056 J	**73 J**	0.079 J	**3.7 J**	**1.5 J**	<0.33
Naphthalene	12	1,000	0.12 J	0.40 J	<0.33	1.0 B	<0.33	0.094 J	**710 B**	**830 B**	8.3 B	0.95 B	0.023 J	1.0	**140 J**	**13**	**150**	**61**	**33**
Phenanthrene	100	1,000	0.20 J	0.28 J	<0.33	1.2	<0.33	0.11 J	**550**	**400**	4.6	0.19 J	0.14 J	0.15 J	**840**	0.86 J	60	24	0.13 J
Phenol	0.33	1,000	NA	<0.33	NA	<0.33	NA	<0.33	NA	**16 J**	NA	NA	<0.33	NA	<0.33	NA	NA	NA	<0.33
Pyrene	100	1,000	0.24 J	0.34 J	<0.33	0.71	<0.33	0.33 J	**200**	**150**	1.9 J	0.10 J	0.49 J	0.094 J	**340**	0.41 J	21 J	8.0 J	0.11 J
Total PAHs	- -	- -	1.5 J	2.5 J	<0.33	7.7 J	<0.33	1.3 J	3,000 J	2,700 J	29 J	1.8 J	3.7 J	2.9 J	3,400 J	19 J	490 J	200 J	45 J
Total SVOCs	0	- -	**2.1 J**	**3.2 J**	<0.33	**8.8 J**	<0.33	**1.6 J**	**3,000 J**	**2,900 J**	**29 J**	**1.8 J**	**4.5 J**	**2.9 J**	**3,600 J**	**19 J**	**490 J**	**200 J**	**47 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-1			SB-2		SB-3	SB-4				SB-5		SB-6		SB-7		
Sample Depth(Feet): Date Collected:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	10 - 12 02/19/98	16 - 18 02/19/98	22 - 24 02/19/98	12 - 14 07/13/95	14 - 16 07/13/95	14 - 16 02/27/98	12 - 14 07/13/95	14 - 16 07/13/95	30 - 32 07/13/95	38 - 40 07/13/95	4 - 6 07/14/95	20 - 22 07/14/95	8 - 10 07/18/95	22 - 24 07/18/95	12 - 14 02/26/98	14 - 16 02/26/98	20 - 22 02/26/98
X = Soil Removed During IRM:						X	X	X	X	X			X		X				
Inorganics																			
Aluminum	- -	- -	NA	2,660	NA	7,610	NA	1,090	NA	3,840	NA	NA	5,480	NA	4,500	NA	NA	NA	2,860
Antimony	- -	- -	NA	1.60 B	NA	<14.4	NA	<0.880	NA	<11.9	NA	NA	<13.7	NA	<11.2	NA	NA	NA	1.40 B
Arsenic	13	16	NA	<0.640	NA	3.80 B	NA	<0.590	NA	4.80	NA	NA	4.70	NA	6.50	NA	NA	NA	1.40 B
Barium	350	10,000	NA	67.5	NA	77.6 B	NA	66.5	NA	49.4 B	NA	NA	26.6 B	NA	20.0 B	NA	NA	NA	78.7
Beryllium	7.2	2,700	NA	<0.320	NA	<0.440	NA	<0.290	NA	<0.360	NA	NA	<0.410	NA	<0.340	NA	NA	NA	<0.330
Cadmium	2.5	60	NA	<0.320	NA	<1.30	NA	<0.290	NA	<1.10	NA	NA	<1.20	NA	<1.00	NA	NA	NA	<0.330
Calcium	- -	- -	NA	157,000 E	NA	221,000 E	NA	165,000 E	NA	232,000 E	NA	NA	260,000 E	NA	264,000 E	NA	NA	NA	204,000 E
Chromium	- -	- -	NA	4.30	NA	12.4	NA	2.00 B	NA	5.90	NA	NA	8.50	NA	9.00	NA	NA	NA	5.30
Cobalt	- -	- -	NA	2.40 B	NA	3.60 B	NA	0.880 B	NA	2.40 B	NA	NA	3.40 B	NA	2.40 B	NA	NA	NA	3.00 B
Copper	50	10,000	NA	5.10 B	NA	26.4	NA	1.10 B	NA	22.0	NA	NA	**52.7**	NA	46.7	NA	NA	NA	6.20 B
Cyanide	27	10,000	3.71	0.800	0.780	**33.0**	9.90	<0.500	**63.5**	22.4	<0.660	<0.570	5.20	1.90	17.3	<1.60	<0.890	<0.880	<0.500
Iron	- -	- -	NA	6,880 E	NA	11,600 E	NA	2,660	NA	4,890 E	NA	NA	6,890 E	NA	4,420 E	NA	NA	NA	9,030
Lead	63	3,900	NA	6.00	NA	**73.4 E**	NA	2.00	NA	15.4 E	NA	NA	25.9 E	NA	18.1 E	NA	NA	NA	4.80
Magnesium	- -	- -	NA	6,540 E	NA	11,200 E	NA	4,410	NA	8,330 E	NA	NA	13,600 E	NA	21,900 E	NA	NA	NA	7,190
Manganese	1,600	10,000	NA	224	NA	690 EN	NA	452	NA	601 EN	NA	NA	791 EN	NA	709 EN	NA	NA	NA	384
Mercury	0.18	5.7	NA	<0.120	NA	**0.310 N**	NA	<0.120	NA	<0.170	NA	NA	**0.240 N**	NA	**0.300 N**	NA	NA	NA	<0.150
Nickel	30	10,000	NA	7.80 B	NA	13.1 B	NA	4.00 B	NA	7.50 B	NA	NA	11.0 B	NA	9.10 B	NA	NA	NA	9.30 B
Potassium	- -	- -	NA	854 BE	NA	1,120 E	NA	398 BE	NA	770 E	NA	NA	161 BE	NA	59.1 BE	NA	NA	NA	705 BE
Selenium	3.9	6,800	NA	<0.640	NA	1.50 BNW	NA	<0.590	NA	<0.360	NA	NA	<0.410	NA	1.80 N	NA	NA	NA	<0.660
Silver	2	6,800	NA	<0.320	NA	<0.870	NA	<0.290	NA	<0.720	NA	NA	<0.830	NA	<0.680	NA	NA	NA	<0.330
Sodium	- -	- -	NA	1,100 BE	NA	1,480	NA	896 BE	NA	8,730	NA	NA	1,870	NA	3,100	NA	NA	NA	1,160 BE
Thallium	- -	- -	NA	<0.640	NA	<1.70	NA	<0.590	NA	<1.40	NA	NA	<1.60	NA	<1.40	NA	NA	NA	<0.660
Vanadium	- -	- -	NA	4.00 B	NA	16.2 BE	NA	1.60 B	NA	9.70 BE	NA	NA	15.4 BE	NA	12.6 BE	NA	NA	NA	3.80 B
Zinc	109	10,000	NA	43.8	NA	77.4	NA	15.9	NA	40.9	NA	NA	47.2	NA	52.0	NA	NA	NA	39.6
PCBs																			
Aroclor-1242	- -	- -	NA	<0.033	NA	<0.033	NA	<0.033	NA	<0.033	NA	NA	<0.033	NA	<0.033	NA	NA	NA	<0.033
Aroclor-1248	- -	- -	NA	<0.033	NA	<0.033	NA	<0.033	NA	<0.033	NA	NA	<0.033	NA	<0.033	NA	NA	NA	<0.033
Aroclor-1254	- -	- -	NA	<0.033	NA	<0.033	NA	<0.033	NA	<0.033	NA	NA	<0.033	NA	<0.033	NA	NA	NA	<0.033
Aroclor-1260	- -	- -	NA	<0.033	NA	<0.033	NA	<0.033	NA	<0.033	NA	NA	<0.033	NA	<0.033	NA	NA	NA	<0.033
Total PCBs	- -	- -	NA	<0.067	NA	<0.067	NA	<0.067	NA	<0.067	NA	NA	<0.067	NA	<0.067	NA	NA	NA	<0.067
Pesticides																			
4,4'-DDD	0.0033	180	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	NA	NA	<0.0033
4,4'-DDE	0.0033	120	NA	<0.0033	NA	0.00060 JP	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	NA	NA	<0.0033
4,4'-DDT	0.0033	94	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	NA	NA	<0.0033
Aldrin	0.005	1.4	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	NA	NA	<0.0017
Alpha-Chlordane	0.094	47	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	NA	NA	<0.0017
Delta-BHC	0.04	1,000	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	NA	NA	<0.0017
Dieldrin	0.005	2.8	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	NA	NA	<0.0033
Endosulfan II	2.4	920	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	0.060	NA	NA	NA	<0.0033
Endosulfan Sulfate	2.4	920	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	0.084	NA	NA	NA	<0.0033
Endrin	0.014	410	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	NA	NA	<0.0033
Endrin Ketone	- -	- -	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	NA	NA	<0.0033
Gamma-Chlordane	- -	- -	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	NA	NA	<0.0017
Heptachlor	0.042	29	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	NA	NA	<0.0017
Methoxychlor	- -	- -	NA	<0.017	NA	<0.017	NA	<0.017	NA	<0.017	NA	NA	<0.017	NA	<0.017	NA	NA	NA	<0.017

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-8	SB-9							SB-10						
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	18 - 20	2 - 4	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			02/26/98	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00
X = Soil Removed During IRM:											X	X	X				
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.038	0.00050 J	0.00060 J	0.0010 J	0.0020 J	**0.12**	0.035	0.048	0.0020 J	<0.0050 J	0.00080 J [<0.0050]	<0.0050	0.016	0.010	<0.0050
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	0.045	<0.0060	<0.012	0.0010 J	0.00080 J	0.0020 J	0.00050 J	<0.0050	0.0010 J	<0.0050 J	<0.0050 [<0.0050]	<0.0050	0.00060 J	<0.0050	<0.0050
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.082	0.0010 J	0.00070 J	0.0020 J	0.0050 J	0.16	0.031	0.00040 J	0.0050 J	0.00040 J	0.0020 J [0.00080 J]	0.0030 J	0.015	0.00030 J	<0.0050
Xylenes (total)	0.26	1,000	**0.42**	0.00060 J	0.0020 J	0.0090 J	0.0090 J	0.041	0.0070	<0.0050	0.025	0.0060 J	0.0020 J [0.0040 J]	0.014 J	0.0050 J	<0.0050	<0.0050
Total BTEX	- -	- -	0.59	0.0021 J	0.0033 J	0.013 J	0.017 J	0.32 J	0.074 J	0.048 J	0.033 J	0.0064 J	0.0048 J [0.0048 J]	0.017 J	0.037 J	0.010 J	<0.0050
Total VOCs	- -	- -	0.59	0.0021 J	0.0033 J	0.013 J	0.017 J	0.32 J	0.074 J	0.048 J	0.033 J	0.0064 J	0.0048 J [0.0048 J]	0.017 J	0.037 J	0.010 J	<0.0050
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.012 J	0.071 J	0.025 J	0.18 J	0.16 J	0.0040 J	0.0060 J	0.016 J	1.1 J	25 J	0.36 J [0.39 J]	0.61	<0.33	<0.33	<0.33
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	<0.33	<1.6	0.27 J	0.031 J	0.030 J	<0.44	0.0030 J	0.011 J	0.24 J	3.8 J	0.046 J [0.030 J]	0.012 J	<0.33	<0.33	<0.33
Acenaphthylene	100	1,000	<0.33	0.27 J	0.15 J	0.036 J	0.047 J	0.0030 J	0.012 J	0.022 J	4.7	9.9 J	0.20 J [0.19 J]	0.22 J	<0.33	<0.33	<0.33
Anthracene	100	1,000	<0.33	0.76 J	0.35 J	0.0090 J	0.034 J	0.0040 J	0.024 J	0.065 J	4.5	34 J	0.062 J [0.036 J]	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	1	11	<0.33	**3.6**	0.37 J	0.0050 J	0.037 J	0.0070 J	0.038 J	0.078 J	**24**	**2.0 J**	0.018 J [0.019 J]	0.0060 J	<0.33	<0.33	<0.33
Benzo(a)pyrene	0	1.1	**0.020 J**	**2.1**	**0.24 J**	**0.0040 J**	**0.026 J**	**0.0050 J**	**0.035 J**	**0.065 J**	**23**	**14 J**	**0.017 J [0.021 J]**	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	1	11	<0.33	**2.4**	0.19 J	0.0030 J	0.020 J	0.0050 J	0.030 J	0.059 J	**22**	**12 J**	0.012 J [0.014 J]	<0.33	<0.33	<0.33	<0.33
Benzo(g,h,i)perylene	100	1,000	0.096 J	1.2 J	0.090 J	0.43 J	0.013 J	0.0020 J	0.020 J	0.037 J	18	7.4 J	<0.33 [0.012 J]	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	0.8	110	<0.33	**3.1**	0.27 J	0.0050 J	0.034 J	0.0060 J	0.033 J	0.068 J	**19**	**14 J**	0.019 J [0.022 J]	<0.33	<0.33	<0.33	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	<0.33	**3.3**	0.34 J	0.0040 J	0.033 J	0.0070 J	0.036 J	0.071 J	**23**	**16 J**	0.016 J [0.016 J]	0.0050 J	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	<0.33	**0.47 J**	0.036 J	**0.43 J**	<0.55	<0.44	0.0060 J	0.016 J	**7.8**	**2.9 J**	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	<0.33	7.6	0.91 J	0.010 J	0.082 J	0.011 J	0.071 J	0.17 J	25	45 J	0.046 J [0.044 J]	0.016 J	<0.33	<0.33	<0.33
Fluorene	30	1,000	<0.33	0.056 J	0.41 J	0.062 J	0.056 J	0.0040 J	0.012 J	0.032 J	0.74 J	**31 J**	0.30 J [0.19 J]	0.010 J	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	0.5	11	<0.33	**1.3 J**	0.096 J	0.43 J	0.013 J	0.0020 J	0.021 J	0.041 J	**19**	**8.8 J**	0.0090 J [0.011 J]	<0.33	<0.33	<0.33	<0.33
Naphthalene	12	1,000	1.9	0.10 J	0.080 J	0.65 J	1.7	0.055 J	0.016 J	0.037 J	0.80 J	**16 J**	0.72 [0.71]	3.0	0.028 J	0.012 J	0.0070 J
Phenanthrene	100	1,000	<0.33	3.9	0.35 J	0.011 J	0.064 J	0.010 J	0.055 J	0.13 J	8.4	81 J	0.32 J [0.19 J]	0.018 J	0.0090 J	<0.33	<0.33
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.017 J	5.0	0.71 J	0.0080 J	0.061 J	0.010 J	0.052 J	0.10 J	25	26 J	0.030 J [0.026 J]	0.0090 J	<0.33	<0.33	<0.33
Total PAHs	- -	- -	2.1 J	35 J	4.9 J	2.3 J	2.4 J	0.14 J	0.47 J	1.0 J	230 J	350 J	2.2 J [1.9 J]	3.9 J	0.037 J	0.012 J	0.0070 J
Total SVOCs	0	- -	**2.1 J**	**35 J**	**4.9 J**	**2.3 J**	**2.4 J**	**0.14 J**	**0.47 J**	**1.0 J**	**230 J**	**350 J**	**2.2 J [1.9 J]**	**3.9 J**	**0.037 J**	**0.012 J**	**0.0070 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-8	SB-9							SB-10						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	18 - 20 02/26/98	2 - 4 02/24/00	10 - 12 02/24/00	14 - 16 02/24/00	20 - 22 02/24/00	28 - 30 02/24/00	38 - 40 02/24/00	48 - 50 02/24/00	2 - 4 02/24/00 X	6 - 8 02/24/00 X	14 - 16 02/24/00 X	20 - 22 02/24/00	28 - 30 02/24/00	38 - 40 02/24/00	48 - 50 02/24/00
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	1.96	17.9 J	8.56 J	<0.740 J	<1.72 J	<0.610 J	<0.570 J	0.570	1.45	**30.0 J**	2.47 [2.03]	2.36	0.690	0.590	0.590
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-11								SB-12						
Sample Depth(Feet): Date Collected:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 02/28/00	6 - 8 02/28/00	10 - 12 02/28/00	14 - 16 02/28/00	20 - 22 02/28/00	28 - 30 02/28/00	38 - 40 02/28/00	48 - 50 02/28/00	2 - 4 02/28/00	10 - 12 02/28/00	14 - 16 02/28/00	20 - 22 02/28/00	28 - 30 02/28/00	38 - 40 02/28/00	48 - 50 02/28/00
X = Soil Removed During IRM:			X	X	X	X					X	X	X				
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.0060 J	<0.0050 J	**0.070 J**	0.0020 J	**0.062**	**0.34**	0.00080 J	<0.0050	<0.0050 J	0.0010 J	0.0020 J	0.042	**0.17**	0.0040 J	<0.0050
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0050 J	<0.0050 J	0.0070 J	0.0010 J	0.012	0.029	<0.0050	<0.0050	<0.0050 J	0.00060 J	<0.0070	0.0080	0.0010 J	<0.0050	<0.0050
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0060 J	0.00030 J	0.051 J	0.0040 J	0.081	0.32	0.0010 J	0.00020 J	<0.0050 J	0.0030 J	0.0020 J	0.046	0.073	<0.0050	0.00020 J
Xylenes (total)	0.26	1,000	0.0010 J	0.0010 J	0.089 J	0.017	0.16	0.26	0.0040 J	<0.0050	<0.0050 J	0.012 J	0.0020 J	0.090	0.022	<0.0050	<0.0050
Total BTEX	- -	- -	0.013 J	0.0013 J	0.22 J	0.024 J	0.32	0.95	0.0058 J	0.00020 J	<0.0050	0.017 J	0.0060 J	0.19	0.27 J	0.0040 J	0.00020 J
Total VOCs	- -	- -	0.013 J	0.0013 J	0.22 J	0.024 J	0.32	0.95	0.0058 J	0.00020 J	<0.0050	0.017 J	0.0060 J	0.19	0.27 J	0.0040 J	0.00020 J
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.20 J	0.022 J	0.64 J	0.51	0.85	0.045 J	<0.33	<0.33	0.018 J	0.96 J	0.041 J	<0.54	<0.53	<0.33	<0.33
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.034 J	0.016 J	0.069 J	0.074 J	0.077 J	<0.33	<0.33	<0.33	<0.33 J	0.10 J	<0.47	<0.54	<0.53	<0.33	<0.33
Acenaphthylene	100	1,000	0.10 J	0.061 J	0.32 J	0.24 J	0.40 J	0.0080 J	<0.33	<0.33	<0.33 J	0.47 J	0.012 J	<0.54	<0.53	<0.33	<0.33
Anthracene	100	1,000	0.14 J	0.090 J	0.18 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33 J	0.22 J	<0.47	<0.54	<0.53	<0.33	<0.33
Benzo(a)anthracene	1	11	0.39	0.36 J	0.20 J	<0.33	0.0090 J	<0.33	<0.33	<0.33	0.014 J	0.22 J	<0.47	<0.54	<0.53	<0.33	<0.33
Benzo(a)pyrene	0	1.1	**0.37 J**	**0.37 J**	**0.21 J**	<0.33	**0.010 J**	<0.33	<0.33	<0.33	<0.33 J	**0.18 J**	<0.47	<0.54	<0.53	<0.33	<0.33
Benzo(b)fluoranthene	1	11	0.30 J	0.30 J	0.14 J	<0.33	0.0090 J	<0.33	<0.33	<0.33	0.015 J	0.12 J	<0.47	<0.54	<0.53	<0.33	<0.33
Benzo(g,h,i)perylene	100	1,000	0.31 J	0.21 J	0.12 J	<0.33 J	<0.33 J	<0.33 J	<0.33 J	<0.33 J	<0.33 J	0.10 J	0.47 J	<0.54	<0.53	<0.33 J	<0.33 J
Benzo(k)fluoranthene	0.8	110	0.36 J	0.37 J	0.17 J	<0.33	0.010 J	<0.33	<0.33	<0.33	0.016 J	0.22 J	<0.47	<0.54	<0.53	<0.33	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.48	0.42 J	0.24 J	<0.33	0.0090 J	<0.33	<0.33	<0.33	0.014 J	0.20 J	<0.47	<0.54	<0.53	<0.33	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	0.11 J	<0.33 J	<0.33 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33 J	**0.87 J**	<0.47	<0.54	<0.53	<0.33	<0.33
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.63	0.44 J	0.42 J	0.0050 J	0.019 J	<0.33	<0.33	<0.33	0.026 J	0.64 J	<0.47	<0.54	<0.53	<0.33	<0.33
Fluorene	30	1,000	0.030 J	0.019 J	0.28 J	0.34 J	0.18 J	<0.33	<0.33	<0.33	<0.33 J	0.34 J	0.024 J	<0.54	<0.53	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	0.5	11	0.27 J	0.20 J	0.11 J	<0.33 J	<0.33 J	<0.33 J	<0.33 J	<0.33 J	<0.33 J	0.11 J	<0.47	<0.54	<0.53	<0.33 J	<0.33 J
Naphthalene	12	1,000	0.13 J	0.072 J	1.5 J	0.95	2.0	2.1	0.022 J	<0.33	0.013 J	1.8 J	0.083 J	2.0	0.14 J	<0.33	<0.33
Phenanthrene	100	1,000	0.46 J	0.12 J	0.55 J	0.018 J	0.029 J	<0.33	<0.33	<0.33	0.028 J	1.2 J	<0.47	<0.54	0.0090 J	<0.33	<0.33
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.58	1.5	1.0	<0.33	0.018 J	<0.33	<0.33	<0.33	0.017 J	0.44 J	<0.47	<0.54	<0.53	<0.33	<0.33
Total PAHs	- -	- -	4.9 J	4.6 J	6.2 J	2.1 J	3.6 J	2.2 J	0.022 J	<0.33	0.16 J	8.2 J	0.63 J	2.0	0.15 J	<0.33	<0.33
Total SVOCs	0	- -	**4.9 J**	**4.6 J**	**6.2 J**	**2.1 J**	**3.6 J**	**2.2 J**	**0.022 J**	<0.33	**0.16 J**	**8.2 J**	**0.63 J**	**2.0**	**0.15 J**	<0.33	<0.33

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-11								SB-12						
Sample Depth(Feet):	Unrestricted	Industrial	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:	(Exceedences	(Exceedences	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00	02/28/00
X = Soil Removed During IRM:	in bold)	shaded)	X	X	X	X					X	X	X				
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	0.610	**56.9 J**	**151 J**	0.740	0.680	1.36	0.740	0.620	1.91	**49.2**	<0.690	<1.64 J	<1.59 J	0.720	0.630
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-13						SB-14						
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	20 - 22	28 - 30	48 - 50	2 - 4	6 - 8	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			03/15/00	03/15/00	03/15/00	03/15/00	03/15/00	03/15/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00
X = Soil Removed During IRM:			X	X	X										
Volatile Organics															
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.0014 J	<0.0056	0.014	0.0042 J	0.046	<0.0066	0.0080 [0.0050 J]	0.0090 J	0.0040 J	0.059	0.018	0.042	0.00040 J
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0060	<0.0056	0.0026 J	<0.0086	0.0047 J	<0.0066	0.0020 J [0.0010 J]	0.0010 J	0.00070 J	0.028 J	0.033	0.0010 J	<0.0060
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0023 J	0.0016 J	0.015	0.0083 J	0.044	<0.0066	0.018 J [0.0080 J]	0.0060 J	0.0050 J	0.092	0.12	0.0060 J	0.0010 J
Xylenes (total)	0.26	1,000	<0.0060	0.0013 J	0.043	0.0068 J	0.034	<0.0066	0.040 J [0.024 J]	0.015 J	0.011	0.11	0.25	0.013	0.0030 J
Total BTEX	- -	- -	0.0037 J	0.0029 J	0.075 J	0.019 J	0.13 J	<0.0066	0.068 J [0.038 J]	0.031 J	0.021 J	0.29 J	0.42	0.062 J	0.0044 J
Total VOCs	- -	- -	0.0037 J	0.0029 J	0.075 J	0.019 J	0.13 J	<0.0066	0.068 J [0.038 J]	0.031 J	0.021 J	0.29 J	0.42	0.062 J	0.0044 J
Semivolatile Organics															
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.46 J	0.40 J	0.23 J	0.036 J	<0.51	<0.43	78 J [92 J]	0.50 J	0.67 J	2.4	0.019 J	0.0040 J	0.0020 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.63 J	0.16 J	<0.63	<0.47	<0.51	<0.43	**24 J [34 J]**	0.25 J	0.14 J	0.074 J	<1.6	<0.42	<0.42
Acenaphthylene	100	1,000	<1.2	0.11 J	0.042 J	<0.47	<0.51	<0.43	**200 [260 J]**	1.1 J	0.90	0.81	0.017 J	0.0040 J	0.0020 J
Anthracene	100	1,000	1.6	0.57 J	0.062 J	<0.47	<0.51	<0.43	**310 [380]**	1.7 J	1.4	0.10 J	0.016 J	0.0070 J	0.0030 J
Benzo(a)anthracene	1	11	**3.7**	**2.0**	0.15 J	0.025 J	<0.51	<0.43	**570 [660]**	**1.6 J**	**1.6**	0.12 J	0.022 J	0.010 J	0.0060 J
Benzo(a)pyrene	0	1.1	**3.3**	**1.9**	**0.12 J**	**0.022 J**	<0.51	<0.43	**440 [460]**	**1.1 J**	**1.1**	**0.090 J**	**0.015 J**	**0.0070 J**	**0.0030 J**
Benzo(b)fluoranthene	1	11	**3.5**	**2.0**	0.086 J	<0.47	<0.51	<0.43	**300 [370]**	0.78 J	0.95	0.072 J	0.011 J	0.0060 J	0.0030 J
Benzo(g,h,i)perylene	100	1,000	2.0	1.0	<0.63	<0.47	<0.51	<0.43	**260 [270 J]**	0.46 J	0.43 J	0.032 J	<1.6	0.0020 J	<0.42
Benzo(k)fluoranthene	0.8	110	**3.1**	**1.8**	0.13 J	<0.47	<0.51	<0.43	**540 [520]**	**1.4 J**	**1.1**	0.10 J	0.021 J	0.0080 J	0.0040 J
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**3.7**	**2.1**	0.16 J	0.022 J	<0.51	<0.43	**480 [560]**	**1.4 J**	**1.4**	0.10 J	0.018 J	0.0090 J	0.0050 J
Dibenzo(a,h)anthracene	0.33	1.1	**0.78 J**	**0.37 J**	<0.63	<0.47	<0.51	<0.43	**83 J [92 J]**	0.16 J	0.18 J	0.013 J	<1.6	<0.42	<0.42
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	7.0	3.8	0.28 J	0.039 J	<0.51	<0.43	**1,200 [1,400]**	3.8 J	4.1	0.33 J	0.052 J	0.021 J	0.011 J
Fluorene	30	1,000	0.74 J	0.24 J	<0.63	<0.47	<0.51	<0.43	**140 J [180 J]**	1.1 J	0.91	0.089 J	0.011 J	0.0050 J	0.0030 J
Indeno(1,2,3-cd)pyrene	0.5	11	**1.8**	**1.0**	0.063 J	<0.47	<0.51	<0.43	**260 [290 J]**	0.50 J	0.49 J	0.034 J	0.0060 J	0.0030 J	<0.42
Naphthalene	12	1,000	0.94 J	0.61 J	1.7	0.24 J	0.089 J	<0.43	**160 J [170 J]**	0.39 J	0.66 J	2.1	9.1	0.029 J	0.0060 J
Phenanthrene	100	1,000	5.9	2.4	0.16 J	0.081 J	<0.51	<0.43	**740 J [930 J]**	4.0 J	3.3	0.19 J	0.044 J	0.019 J	0.010 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	6.1	2.9	0.30 J	0.032 J	<0.51	<0.43	**980 J [1,400 J]**	3.0 J	2.8	0.22 J	0.037 J	0.017 J	0.0090 J
Total PAHs	- -	- -	45 J	23 J	3.5 J	0.50 J	0.089 J	<0.43	6,800 J [8,100 J]	23 J	22 J	6.9 J	9.4 J	0.15 J	0.067 J
Total SVOCs	0	- -	**45 J**	**23 J**	**3.5 J**	**0.50 J**	**0.089 J**	<0.43	**6,800 J [8,100 J]**	**23 J**	**22 J**	**6.9 J**	**9.4 J**	**0.15 J**	**0.067 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-13						SB-14						
Sample Depth(Feet):	Unrestricted	Industrial	2 - 4	6 - 8	10 - 12	20 - 22	28 - 30	48 - 50	2 - 4	6 - 8	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:	(Exceedences	(Exceedences	03/15/00	03/15/00	03/15/00	03/15/00	03/15/00	03/15/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00	02/24/00
X = Soil Removed During IRM:	in bold)	shaded)	X	X	X										
Inorganics															
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	2.50	8.60	3.00	1.60	<0.770	<0.660	21.8 J [18.7 J]	2.87 J	<0.670 J	<1.57 J	<2.91 J	<0.650 J	<0.620 J
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs															
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides															
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-15								SB-16					
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/02/00 X	6 - 8 03/02/00 X	10 - 12 03/02/00 X	14 - 16 03/02/00 X	20 - 22 03/02/00	28 - 30 03/02/00	38 - 40 03/02/00	48 - 50 03/02/00	6 - 8 03/03/00 X	10 - 12 03/03/00 X	14 - 16 03/03/00 X	20 - 22 03/03/00	38 - 40 03/03/00	48 - 50 03/03/00
Volatile Organics																
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.011	<12 J	0.0050 J	0.0010 J	**0.35**	**0.062**	**0.081**	0.0050 J	<0.012 J	0.00090 J	0.00060 J	**0.074**	**0.12**	0.0020 J
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0060	<12 J	0.029 J	0.030	0.052	0.0050 J	0.0030 J	<0.0050	<0.012 J	<0.011 J	0.0010 J	0.019	<0.0060	<0.0060
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0010 J	<12 J	0.016 J	0.0040 J	**1.3**	0.068	0.014	0.00030 J	0.00040 J	0.00040 J	0.0040 J	0.15	0.0020 J	<0.0060
Xylenes (total)	0.26	1,000	<0.0060	**0.47 J**	0.26 J	0.083	**0.72**	0.052	0.020	<0.0050	<0.012 J	<0.011 J	0.024	0.26	0.00090 J	<0.0060
Total BTEX	- -	- -	0.012 J	0.47 J	0.31 J	0.12 J	2.4	0.19 J	0.12 J	0.0053 J	0.00040 J	0.0013 J	0.030 J	0.50	0.12 J	0.0020 J
Total VOCs	- -	- -	0.012 J	0.47 J	0.31 J	0.12 J	2.4	0.19 J	0.12 J	0.0053 J	0.00040 J	0.0013 J	0.030 J	0.50	0.12 J	0.0020 J
Semivolatile Organics																
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.0030 J	15 J [2.3 J]	6.9 J	5.8	5.8	0.017 J	0.013 J	<0.33	8.8 J	2.1 J	1.2 J	0.92	<0.40	0.011 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	<0.42	**23 J [9.1 J]**	0.57 J	3.9	0.55 J	<0.33	<0.33	<0.33	18 J	8.1 J	0.20 J	0.11 J	<0.40	0.0030 J
Acenaphthylene	100	1,000	0.0090 J	51 J [61 J]	1.9 J	1.1 J	4.5	0.0070 J	<0.33	<0.33	93 J	30 J	0.91 J	0.61	0.0020 J	0.020 J
Anthracene	100	1,000	0.0060 J	**140 J [74 J]**	1.2 J	1.2 J	0.66 J	0.014 J	0.0060 J	<0.33	**210 J**	75	0.48 J	0.32 J	0.0020 J	0.029 J
Benzo(a)anthracene	1	11	0.012 J	**95 [90 J]**	0.63 J	0.39 J	0.10 J	<0.33	<0.33	<0.33	**170 J**	**71**	0.70 J	0.40 J	0.0030 J	0.089 J
Benzo(a)pyrene	0	1.1	**0.018 J**	**70 [80 J]**	**0.55 J**	**0.27 J**	**0.065 J**	<0.33	<0.33	<0.33	**120 J**	**50**	**0.53 J**	**0.30 J**	**0.0030 J**	**0.070 J**
Benzo(b)fluoranthene	1	11	0.021 J	**61 J [58 J]**	0.39 J	0.21 J	0.054 J	<0.33	<0.33	<0.33	**100 J**	**40**	0.52 J	0.20 J	0.0060 J	0.070 J
Benzo(g,h,i)perylene	100	1,000	0.014 J	18 J [38 J]	0.22 J	0.095 J	0.020 J	<0.33	<0.33	<0.33	41 J	18 J	0.17 J	0.048 J	<0.40	0.022 J
Benzo(k)fluoranthene	0.8	110	0.023 J	**83 [90 J]**	0.54 J	0.28 J	0.060 J	<0.33	<0.33	<0.33	**120 J**	**57**	0.52 J	0.38 J	0.0030 J	0.073 J
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.015 J	**75 [75 J]**	0.55 J	0.31 J	0.072 J	<0.33	<0.33	<0.33	**140 J**	**57**	0.57 J	0.39 J	0.0050 J	0.080 J
Dibenzo(a,h)anthracene	0.33	1.1	0.0070 J	**9.0 J [15 J]**	0.066 J	0.039 J	<2.1	<0.33	<0.33	<0.33	**17 J**	**6.9 J**	0.082 J	0.025 J	<0.40	0.011 J
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.015 J	**210 [190 J]**	1.4 J	1.2 J	0.29 J	0.016 J	0.012 J	<0.33	**460 J**	**160**	1.2 J	0.74	0.0060 J	0.14 J
Fluorene	30	1,000	<0.42	**160 [71 J]**	2.8 J	3.0	2.6	0.016 J	<0.33	<0.33	**120 J**	**60**	1.1 J	0.53	<0.40	0.016 J
Indeno(1,2,3-cd)pyrene	0.5	11	0.013 J	**22 J [40 J]**	0.20 J	0.11 J	0.025 J	<0.33	<0.33	<0.33	**480 J**	**20 J**	0.21 J	0.068 J	<0.40	0.026 J
Naphthalene	12	1,000	0.015 J	**14 J [2.7 J]**	12 J	10	12	0.85	0.17 J	0.011 J	9.0 J	2.6 J	2.7 J	3.9	0.011 J	0.11 J
Phenanthrene	100	1,000	0.0080 J	**360 J [140 J]**	4.1 J	5.0	2.3	0.033 J	0.019 J	0.0080 J	**490 J**	**190**	1.3 J	0.69	0.0080 J	0.070 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.016 J	**180 J [140 J]**	1.2 J	0.67 J	0.16 J	0.011 J	0.0080 J	<0.33	**270 J**	100	1.2 J	0.59	0.0070 J	0.14 J
Total PAHs	- -	- -	0.20 J	1,600 J [1,200 J]	35 J	34 J	29 J	0.96 J	0.23 J	0.019 J	2,900 J	950 J	14 J	10 J	0.056 J	0.98 J
Total SVOCs	0	- -	**0.20 J**	**1,600 J [1,200 J]**	**35 J**	**34 J**	**29 J**	**0.96 J**	**0.23 J**	**0.019 J**	**2,900 J**	**950 J**	**14 J**	**10 J**	**0.056 J**	**0.98 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-15								SB-16					
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	6 - 8	10 - 12	14 - 16	20 - 22	38 - 40	48 - 50
Date Collected:			03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/03/00	03/03/00	03/03/00	03/03/00	03/03/00	03/03/00
X = Soil Removed During IRM:			X	X	X	X					X	X	X			
Inorganics																
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	<0.640	**30.4 J [12.2 J]**	3.23 J	<0.690	1.19	0.600	0.610	0.610	**175 J**	**74.6 J**	6.67	0.730	<0.610	<0.590
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-17							SB-18						
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00
X = Soil Removed During IRM:			X	X	X					X	X	X				
Volatile Organics																
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.013 J	0.0010 J	0.0040 J	0.032	**0.15**	0.034	0.00080 J	<0.012	0.0037 J	<0.0068	0.017	**0.26**	0.033	<0.0057
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	0.013 J	<0.0070	0.00060 J	0.0060 J	<0.0060	<0.0060	<0.0060	<0.012	0.0052 J	<0.0068	0.0037 J	<0.0068	<0.0058	<0.0057
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0010 J	0.0030 J	0.0060 J	0.027	0.047	0.0010 J	0.00050 J	0.0037 J	0.013	0.0032 J	0.029	0.052	<0.0058	<0.0057
Xylenes (total)	0.26	1,000	0.013 J	0.0040 J	0.011	0.093	0.00070 J	<0.0060	<0.0060	0.0065 J	0.039	0.0028 J	0.052	<0.0068	<0.0058	<0.0057
Total BTEX	- -	- -	0.040 J	0.0080 J	0.022 J	0.16 J	0.20 J	0.035 J	0.0013 J	0.010 J	0.061 J	0.0060 J	0.10 J	0.31	0.033	<0.0057
Total VOCs	- -	- -	0.040 J	0.0080 J	0.022 J	0.16 J	0.20 J	0.035 J	0.0013 J	0.010 J	0.061 J	0.0060 J	0.10 J	0.31	0.033	<0.0057
Semivolatile Organics																
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.82 J	0.31 J	0.059 J	0.052 J	<0.42	<0.39	<0.37	0.041 J	0.60	0.034 J	<0.56	<0.44	<0.38	<0.38
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.82 J	0.080 J	0.0080 J	<0.50	<0.42	<0.39	<0.37	<0.75	0.014 J	<0.45	<0.56	<0.44	<0.38	<0.38
Acenaphthylene	100	1,000	0.82 J	0.061 J	0.023 J	0.018 J	<0.42	<0.39	<0.37	<0.75	0.020 J	<0.45	<0.56	<0.44	<0.38	<0.38
Anthracene	100	1,000	0.82 J	0.091 J	<0.42	0.018 J	<0.42	<0.39	<0.37	<0.75	0.091 J	<0.45	<0.56	<0.44	<0.38	<0.38
Benzo(a)anthracene	1	11	0.82 J	0.074 J	<0.42	0.028 J	<0.42	<0.39	<0.37	<0.75	0.32 J	<0.45	<0.56	<0.44	<0.38	<0.38
Benzo(a)pyrene	0	1.1	**0.82 J**	**0.14 J**	<0.42	**0.020 J**	<0.42	<0.39	<0.37	<0.75	**0.24 J**	<0.45	<0.56	<0.44	<0.38	<0.38
Benzo(b)fluoranthene	1	11	0.82 J	0.086 J	<0.42	0.018 J	<0.42	<0.39	<0.37	<0.75	0.16 J	<0.45	<0.56	<0.44	<0.38	<0.38
Benzo(g,h,i)perylene	100	1,000	0.82 J	0.12 J	<0.42	<0.50	<0.42	<0.39	<0.37	<0.75	<0.58	<0.45	<0.56	<0.44	<0.38	<0.38
Benzo(k)fluoranthene	0.8	110	**0.82 J**	0.12 J	<0.42	0.023 J	<0.42	<0.39	<0.37	<0.75	0.24 J	<0.45	<0.56	<0.44	<0.38	<0.38
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.82 J	0.10 J	<0.42	0.027 J	<0.42	<0.39	<0.37	<0.75	0.31 J	<0.45	<0.56	<0.44	<0.38	<0.38
Dibenzo(a,h)anthracene	0.33	1.1	**0.82 J**	<0.63	<0.42	<0.50	<0.42	<0.39	<0.37	<0.75	<0.58	<0.45	<0.56	<0.44	<0.38	<0.38
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.024 J	0.30 J	<0.42	0.063 J	<0.42	<0.39	<0.37	<0.75	0.44 J	<0.45	<0.56	<0.44	<0.38	<0.38
Fluorene	30	1,000	0.82 J	0.085 J	0.022 J	0.016 J	<0.42	<0.39	<0.37	<0.75	0.014 J	<0.45	<0.56	<0.44	<0.38	<0.38
Indeno(1,2,3-cd)pyrene	0.5	11	**0.82 J**	0.089 J	<0.42	<0.50	<0.42	<0.39	<0.37	<0.75	0.11 J	<0.45	<0.56	<0.44	<0.38	<0.38
Naphthalene	12	1,000	0.024 J	0.83	0.17 J	0.68	<0.42	<0.39	<0.37	<0.75	0.40 J	0.090 J	0.56 J	<0.44	<0.38	<0.38
Phenanthrene	100	1,000	0.026 J	0.74	<0.42	0.090 J	<0.42	<0.39	<0.37	0.043 J	0.32 J	<0.45	<0.56	<0.44	<0.38	<0.38
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.020 J	0.15 J	<0.42	0.048 J	<0.42	<0.39	<0.37	<0.75	0.49 J	<0.45	<0.56	<0.44	<0.38	<0.38
Total PAHs	- -	- -	11 J	3.4 J	0.28 J	1.1 J	<0.42	<0.39	<0.37	0.084 J	3.8 J	0.12 J	0.56 J	<0.44	<0.38	<0.38
Total SVOCs	0	- -	**11 J**	**3.4 J**	**0.28 J**	**1.1 J**	<0.42	<0.39	<0.37	**0.084 J**	**3.8 J**	**0.12 J**	**0.56 J**	<0.44	<0.38	<0.38

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-17							SB-18						
Sample Depth(Feet):	Unrestricted	Industrial	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:	(Exceedences	(Exceedences	02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00
X = Soil Removed During IRM:	in bold)	shaded)	X	X	X					X	X	X				
Inorganics																
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	14.9 J	2.66 J	<0.660 J	<0.810 J	<0.600 J	<0.620 J	<0.590 J	**69.5**	**42.1**	1.60	<0.810	<0.570	<0.530	<0.570
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-19							SB-20							
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	8 - 10	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00
X = Soil Removed During IRM:																	
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0077	<0.013	0.0019 J	0.036	**0.17**	<0.0060	<0.0060	0.0060 J	0.0030 J	0.013	0.0020 J	0.018 J	**0.070**	0.052	0.0010 J
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0077	<0.013	<0.0075	0.0099	<0.0076	<0.0060	<0.0060	0.0060 J	0.0060 J	0.076	0.018	0.30	0.034	0.0070	<0.0060
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	<0.0077	<0.013	0.0024 J	0.048	0.051	<0.0060	<0.0060	0.0030 J	0.0050 J	0.078	0.048	0.45	0.23	0.0080	0.00070 J
Xylenes (total)	0.26	1,000	<0.0077	<0.013	0.0065 J	0.12	<0.0076	<0.0060	<0.0060	0.0060 J	0.033	**0.44**	0.13	**1.9**	**0.37**	0.027	0.0010 J
Total BTEX	- -	- -	<0.0077	<0.013	0.011 J	0.21	0.22	<0.0060	<0.0060	0.021 J	0.047 J	0.61	0.20 J	2.7 J	0.70	0.094	0.0027 J
Total VOCs	- -	- -	<0.0077	<0.013	0.011 J	0.21	0.22	<0.0060	<0.0060	0.021 J	0.047 J	0.61	0.20 J	2.7 J	0.70	0.094	0.0027 J
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.12 J	<0.72	<0.45	<0.48	<0.51	<0.41	0.024 J	0.22 J	0.015 J	0.17 J	1.1	2.2	<1.6	0.060 J	0.013 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.025 J	<0.72	<0.45	<0.48	<0.51	<0.41	<0.38	0.23 J	0.61	0.37 J	0.070 J	0.16 J	<1.6	<0.39	<0.38
Acenaphthylene	100	1,000	0.079 J	<0.72	<0.45	<0.48	<0.51	<0.41	<0.38	3.8 J	0.22 J	0.20 J	0.26 J	0.91	<1.6	0.015 J	<0.38
Anthracene	100	1,000	0.097 J	<0.72	<0.45	<0.48	<0.51	<0.41	0.051 J	11	0.25 J	0.13 J	0.029 J	0.029 J	<1.6	<0.39	<0.38
Benzo(a)anthracene	1	11	0.83	<0.72	<0.45	<0.48	<0.51	<0.41	0.24 J	**29**	0.90	0.46 J	0.022 J	<0.55	<1.6	<0.39	<0.38
Benzo(a)pyrene	0	1.1	**0.67**	<0.72	<0.45	**0.035 J**	<0.51	<0.41	**0.13 J**	**20**	**0.79 J**	**0.65**	**0.023 J**	<0.55	<1.6	<0.39	<0.38
Benzo(b)fluoranthene	1	11	0.43 J	<0.72	<0.45	<0.48	<0.51	<0.41	0.16 J	**24**	0.72 J	0.53 J	0.020 J	<0.55	<1.6	0.011 J	<0.38
Benzo(g,h,i)perylene	100	1,000	0.33 J	<0.72	<0.45	<0.48	<0.51	<0.41	<0.38	1.7 J	0.080 J	0.084 J	<0.55	<0.55	<1.6 J	<0.39	<0.38
Benzo(k)fluoranthene	0.8	110	0.51 J	<0.72	<0.45	<0.48	<0.51	<0.41	0.14 J	**22**	**1.1 J**	0.70	0.025 J	<0.55	<1.6	0.0080 J	<0.38
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	1.0	<0.72	<0.45	<0.48	<0.51	<0.41	0.22 J	**22**	0.73	0.47 J	0.021 J	<0.55	<1.6	0.011 J	<0.38
Dibenzo(a,h)anthracene	0.33	1.1	0.098 J	<0.72	<0.45	<0.48	<0.51	<0.41	<0.38	**1.1 J**	<0.49 J	<0.64 J	<0.55	<0.55	<1.6	<0.39	<0.38
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.83	<0.72	<0.45	<0.48	<0.51	<0.41	0.50	37	1.0	0.54 J	0.036 J	<0.55	<1.6	0.0080 J	<0.38
Fluorene	30	1,000	<0.55	<0.72	0.039 J	<0.48	<0.51	<0.41	<0.38	2.1 J	0.33 J	0.21 J	0.18 J	0.42 J	<1.6	<0.39	<0.38
Indeno(1,2,3-cd)pyrene	0.5	11	0.28 J	<0.72	<0.45	<0.48	<0.51	<0.41	0.034 J	**2.5 J**	0.098 J	0.074 J	<0.55	<0.55	<1.6 J	<0.39	<0.38
Naphthalene	12	1,000	0.084 J	<0.72	<0.45	0.15 J	<0.51	<0.41	0.045 J	<0.22	0.42 JB	0.85 B	0.65 B	2.5 B	8.6 B	2.5 B	0.31 JB
Phenanthrene	100	1,000	0.75	<0.72	0.026 J	<0.48	<0.51	<0.41	0.16 J	29	0.46 J	0.28 J	0.094 J	<0.55	<1.6	0.013 J	<0.38
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	1.3	<0.72	<0.45	<0.48	<0.51	<0.41	0.35 J	36	0.96	0.57 J	0.041 J	<0.55	<1.6	0.011 J	<0.38
Total PAHs	- -	- -	7.4 J	<0.72	0.065 J	0.19 J	<0.51	<0.41	2.1 J	240 J	8.7 J	6.3 J	2.6 J	6.2 J	8.6	2.6 J	0.32 J
Total SVOCs	0	- -	**7.4 J**	<0.72	**0.065 J**	**0.19 J**	<0.51	<0.41	**2.1 J**	**240 J**	**8.7 J**	**6.3 J**	**2.6 J**	**6.2 J**	**8.6**	**2.6 J**	**0.32 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-19							SB-20								
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	8 - 10	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	03/16/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00	02/22/00
X = Soil Removed During IRM:																	
Inorganics																		
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	1.50	**91.6**	<0.560	<0.660	<0.760	<0.480	<0.560	<0.590 J	<0.680 J	<0.820 J	<0.650 J	<1.67 J	<0.620 J	<0.600 J	<0.630 J
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																		
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																		
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-21								SB-22						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 02/21/00 X	6 - 8 02/21/00 X	10 - 12 02/21/00 X	14 - 16 02/21/00 X	20 - 22 02/21/00	28 - 30 02/21/00	38 - 40 02/21/00	48 - 50 02/21/00	2 - 4 03/06/00 X	6 - 8 03/06/00 X	10 - 12 03/06/00 X	20 - 22 03/06/00	28 - 30 03/06/00	38 - 40 03/06/00	48 - 50 03/06/00
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.0010 J	0.0010 J	0.0010 J	<1.8 [<1.9]	0.0020 J	0.053	**0.14**	<0.0070	NA	NA	0.011	0.0030 J	0.020	0.0090	0.00070 J
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0080	<0.017	0.0050 J	<1.8 [<1.9]	0.0060 J	0.022 J	0.023 J	<0.0070	NA	NA	0.0060 J	0.0020 J	0.0070	<0.0050	<0.0060
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0050 J	0.0020 J	0.0020 J	0.27 J [0.23 J]	0.0080 J	0.12	0.14	<0.0070	NA	NA	0.024	0.0090	0.039	0.00040 J	<0.0060
Xylenes (total)	0.26	1,000	0.0020 J	0.0040 J	0.020	**0.52 J [0.78 J]**	0.075	**0.28**	0.20	<0.0070	NA	NA	0.066	0.022	0.080	0.00040 J	<0.0060
Total BTEX	- -	- -	0.0080 J	0.0070 J	0.028 J	0.79 J [1.0 J]	0.091 J	0.48 J	0.50 J	<0.0070	NA	NA	0.11 J	0.036 J	0.15	0.0098 J	0.00070 J
Total VOCs	- -	- -	0.0080 J	0.0070 J	0.028 J	0.79 J [1.0 J]	0.091 J	0.48 J	0.50 J	<0.0070	NA	NA	0.11 J	0.036 J	0.15	0.0098 J	0.00070 J
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.33 J	74 J	0.16 J	5.4 [5.6]	5.9	0.044 J	0.25 J	0.018 J	NA	NA	NA	NA	NA	<0.33	0.0030 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	2.0	**51 J**	2.4 J	0.80 J [0.45 J]	0.85 J	<1.6	0.025 J	<0.38	NA	NA	NA	NA	NA	<0.33	<0.38
Acenaphthylene	100	1,000	0.63 J	**290**	7.9	4.6 J [3.0 J]	5.0	<1.6	0.14 J	0.0090 J	NA	NA	NA	NA	NA	0.0070 J	0.0040 J
Anthracene	100	1,000	2.9	**480**	10	3.7 J [1.5 J]	6.3	<1.6	0.16 J	0.013 J	NA	NA	NA	NA	NA	0.018 J	0.0080 J
Benzo(a)anthracene	1	11	**3.8**	**470**	**14**	**2.3 J [0.76 J]**	**4.3**	<1.6	0.13 J	0.010 J	NA	NA	NA	NA	NA	0.041 J	0.033 J
Benzo(a)pyrene	0	1.1	**3.2 J**	**300**	**9.2**	**1.5 J [0.50 J]**	**2.7**	<1.6	**0.083 J**	<0.38	NA	NA	NA	NA	NA	**0.030 J**	**0.024 J**
Benzo(b)fluoranthene	1	11	**3.9 J**	**230**	**7.7**	**1.1 J [0.34 J]**	**2.3 J**	<1.6	0.055 J	0.0070 J	NA	NA	NA	NA	NA	0.023 J	0.025 J
Benzo(g,h,i)perylene	100	1,000	0.69 J	23 J	0.87 J	0.39 J [0.29 J]	0.48 J	<1.6 J	0.036 J	<0.38	NA	NA	NA	NA	NA	0.016 J	0.0080 J
Benzo(k)fluoranthene	0.8	110	**6.7 J**	**380**	**11**	**1.6 J [0.58 J]**	**2.8**	<1.6	0.11 J	<0.38	NA	NA	NA	NA	NA	0.040 J	0.026 J
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**3.4**	**340**	**10**	**1.7 J [0.55 J]**	**3.2**	<1.6	0.086 J	0.0080 J	NA	NA	NA	NA	NA	0.034 J	0.033 J
Dibenzo(a,h)anthracene	0.33	1.1	**1.7 J**	**16 J**	**0.58 J**	0.22 J [0.12 J]	0.28 J	<1.6 J	0.017 J	<0.38	NA	NA	NA	NA	NA	<0.33	0.0040 J
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	5.5	**740**	23	4.8 J [2.1 J]	9.6	<1.6	0.28 J	0.029 J	NA	NA	NA	NA	NA	0.093 J	0.064 J
Fluorene	30	1,000	3.0	**360**	11	4.5 J [2.7 J]	5.5	<1.6	0.16 J	<0.38	NA	NA	NA	NA	NA	<0.33	0.0030 J
Indeno(1,2,3-cd)pyrene	0.5	11	**0.58 J**	**41 J**	**1.4 J**	**0.62 J [0.36 J]**	**0.73 J**	<1.6 J	0.047 J	<0.38	NA	NA	NA	NA	NA	0.018 J	0.0090 J
Naphthalene	12	1,000	0.25 J	**66 J**	0.31 J	**7.6 J [14 J]**	8.5	8.2	2.5	0.042 J	NA	NA	NA	NA	NA	0.27 J	0.039 J
Phenanthrene	100	1,000	9.8	**1,100**	28	11 J [5.1 J]	16	0.032 J	0.44	0.034 J	NA	NA	NA	NA	NA	0.022 J	0.014 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	5.5	**570**	19	3.8 J [1.5 J]	6.9	<1.6	0.18 J	0.018 J	NA	NA	NA	NA	NA	0.050 J	0.052 J
Total PAHs	- -	- -	54 J	5,500 J	160 J	56 J [40 J]	81 J	8.3 J	4.7 J	0.19 J	NA	NA	NA	NA	NA	0.66 J	0.35 J
Total SVOCs	0	- -	**54 J**	**5,500 J**	**160 J**	**56 J [40 J]**	**81 J**	**8.3 J**	**4.7 J**	**0.19 J**	NA	NA	NA	NA	NA	**0.66 J**	**0.35 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-21								SB-22						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 02/21/00 X	6 - 8 02/21/00 X	10 - 12 02/21/00 X	14 - 16 02/21/00 X	20 - 22 02/21/00	28 - 30 02/21/00	38 - 40 02/21/00	48 - 50 02/21/00	2 - 4 03/06/00 X	6 - 8 03/06/00 X	10 - 12 03/06/00 X	20 - 22 03/06/00	28 - 30 03/06/00	38 - 40 03/06/00	48 - 50 03/06/00
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	19.7 J	**60.9 J**	**31.4 J**	10.4 J [2.57 J]	<0.930 J	<0.630 J	<1.37 J	<0.700 J	11.1	**46.8 [19.1]**	4.33	1.63	0.590	0.630	<1.20
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-23							SB-24								
Sample Depth(Feet): Date Collected:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 02/29/00	6 - 8 02/29/00	10 - 12 02/29/00	20 - 22 02/29/00	28 - 30 02/29/00	38 - 40 02/29/00	48 - 50 02/29/00	2 - 4 03/20/00	6 - 8 03/20/00	10 - 12 03/20/00	14 - 16 03/20/00	20 - 22 03/20/00	28 - 30 03/20/00	38 - 40 03/20/00	48 - 50 03/20/00
X = Soil Removed During IRM:			X	X	X													
Volatile Organics																		
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.0040 J	0.0020 J [0.014 J]	0.0040 J	0.0030 J	**0.16 J**	0.0070 J	<0.0050	0.0018 J	<0.011	<0.0089	<0.0071	0.0040 J	0.051	0.041	0.0097
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	0.0050 J	0.014 J [0.014 J]	0.0010 J	<0.0070	0.0020 J	<0.0070	<0.0050	<0.0059	<0.011	<0.0089	<0.0071	0.0053 J	<0.0065	<0.0060	<0.0067
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0070 J	0.0020 J [<0.0050 J]	0.0060 J	0.0020 J	0.23	0.0010 J	0.00060 J	0.014	<0.011	0.0028 J	<0.0071	0.0089	0.022	0.0026 J	<0.0067
Xylenes (total)	0.26	1,000	0.0010 J	0.0050 J [0.014 J]	0.0080	0.0050 J	0.028	<0.0070	0.00040 J	<0.0059	<0.011	<0.0089	0.0019 J	0.084	<0.0065	<0.0060	<0.0067
Total BTEX	- -	- -	0.017 J	0.023 J [0.042 J]	0.019 J	0.010 J	0.42 J	0.0080 J	0.0010 J	0.016 J	<0.011	0.0028 J	0.0019 J	0.10 J	0.073	0.044 J	0.0097
Total VOCs	- -	- -	0.017 J	0.023 J [0.042 J]	0.019 J	0.010 J	0.42 J	0.0080 J	0.0010 J	0.016 J	<0.011	0.0028 J	0.0019 J	0.10 J	0.073	0.044 J	0.0097
Semivolatile Organics																		
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.22 J	<0.82 [0.89 J]	0.18 J	0.037 J	<0.78	<0.41	<0.33	0.23 J	<0.73	0.043 J	0.16 J	0.065 J	<0.41	<0.40	<0.40
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.16 J	<0.82 [0.89 J]	0.017 J	<0.50	<0.78	<0.41	<0.33	0.42 J	<0.73	<0.80	<0.54	<0.48	<0.41	<0.40	<0.40
Acenaphthylene	100	1,000	0.054 J	<0.82 [0.018 J]	0.050 J	<0.50	<0.78	<0.41	<0.33	0.040 J	<0.73	<0.80	<0.54	<0.48	<0.41	<0.40	<0.40
Anthracene	100	1,000	0.42	<0.82 [0.026 J]	0.10 J	0.0040 J	<0.78	<0.41	<0.33	0.93	<0.73	<0.80	<0.54	<0.48	<0.41	<0.40	<0.40
Benzo(a)anthracene	1	11	**1.4**	0.018 J [0.12 J]	0.17 J	0.0080 J	<0.78	<0.41	<0.33	**2.5**	<0.73	0.055 J	<0.54	<0.48	<0.41	<0.40	<0.40
Benzo(a)pyrene	0	1.1	**1.5**	**<0.82 [0.89 J]**	**0.12 J**	<0.50	<0.78	<0.41	<0.33	**2.2**	<0.73	**0.042 J**	<0.54	<0.48	<0.41	<0.40	<0.40
Benzo(b)fluoranthene	1	11	**1.7**	<0.82 [0.044 J]	0.087 J	<0.50	<0.78	<0.41	<0.33	**1.8**	<0.73	0.042 J	<0.54	<0.48	<0.41	<0.40	<0.40
Benzo(g,h,i)perylene	100	1,000	0.32 J	<0.82 [0.89 J]	<0.50	<0.50	<0.78	<0.41	<0.33	1.2	<0.73	<0.80	<0.54	<0.48	<0.41	<0.40	<0.40
Benzo(k)fluoranthene	0.8	110	**1.6**	<0.82 [0.052 J]	0.10 J	<0.50	<0.78	<0.41	<0.33	**2.5**	<0.73	0.052 J	<0.54	<0.48	<0.41	<0.40	<0.40
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**1.6**	0.017 J [0.15 J]	0.17 J	0.0080 J	<0.78	<0.41	<0.33	**2.4**	<0.73	0.087 J	<0.54	<0.48	<0.41	<0.40	<0.40
Dibenzo(a,h)anthracene	0.33	1.1	0.12 J	**<0.82 [0.89 J]**	<0.50	<0.50	<0.78	<0.41	<0.33	**0.52 J**	<0.73	<0.80	<0.54	<0.48	<0.41	<0.40	<0.40
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	2.0	0.23 J [0.92 J]	0.41 J	0.021 J	<0.78	<0.41	<0.33	4.3	<0.73	0.12 J	<0.54	<0.48	<0.41	<0.40	<0.40
Fluorene	30	1,000	0.14 J	<0.82 [0.89 J]	0.044 J	<0.50	<0.78	<0.41	<0.33	0.42 J	<0.73	<0.80	<0.54	<0.48	<0.41	<0.40	<0.40
Indeno(1,2,3-cd)pyrene	0.5	11	0.36	**<0.82 [0.89 J]**	0.022 J	<0.50	<0.78	<0.41	<0.33	**1.2**	<0.73	<0.80	<0.54	<0.48	<0.41	<0.40	<0.40
Naphthalene	12	1,000	0.13 J	<0.82 [0.047 J]	0.26 J	0.45 J	<0.78	<0.41	<0.33	0.33 J	<0.73	0.063 J	0.24 J	0.82	<0.41	<0.40	0.021 J
Phenanthrene	100	1,000	1.4	0.029 J [0.080 J]	0.37 J	0.014 J	<0.78	<0.41	<0.33	3.6	<0.73	0.17 J	0.041 J	<0.48	<0.41	<0.40	<0.40
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	1.8	0.12 J [1.1 J]	0.38 J	0.016 J	<0.78	<0.41	<0.33	4.6	<0.73	0.085 J	<0.54	<0.48	<0.41	<0.40	<0.40
Total PAHs	- -	- -	15 J	0.41 J [8.8 J]	2.5 J	0.56 J	<0.78	<0.41	<0.33	29 J	<0.73	0.76 J	0.44 J	0.89 J	<0.41	<0.40	0.021 J
Total SVOCs	0	- -	**15 J**	**0.41 J [8.8 J]**	**2.5 J**	**0.56 J**	<0.78	<0.41	<0.33	**29 J**	<0.73	**0.76 J**	**0.44 J**	**0.89 J**	<0.41	<0.40	**0.021 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-23							SB-24								
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	02/29/00	03/20/00	03/20/00	03/20/00	03/20/00	03/20/00	03/20/00	03/20/00	03/20/00
X = Soil Removed During IRM:			X	X	X												
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	<1.07 J	**78.8 J [122 J]**	<1.36 J	<0.740 J	<0.620 J	<0.680 J	0.610	11.6	15.1	**75.4**	<0.800	<0.690	<0.510	<0.540	<0.560
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-25								SB-26						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/17/00	6 - 8 03/17/00	10 - 12 03/17/00	14 - 16 03/17/00	20 - 22 03/17/00	28 - 30 03/17/00	38 - 40 03/17/00	48 - 50 03/17/00	2 - 4 02/24/00	6 - 8 02/24/00	10 - 12 02/24/00	20 - 22 02/24/00	28 - 30 02/24/00	38 - 40 02/24/00	48 - 50 02/24/00
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0061	<0.0062	0.010	0.0020 J	0.026 [0.014]	**0.098**	0.0083	<0.0057	<0.012	<0.014	0.00050 J	**0.13**	<0.0060	0.00080 J	0.0060
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0061	<0.0062	0.0090	0.014	0.0060 J [0.0044 J]	<0.0060	<0.0063	<0.0057	<0.012	<0.014	0.0050 J	0.38	0.0070	0.00070 J	0.00050 J
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0014 J	<0.0062	<0.0081	0.0033 J	0.036 [0.026]	0.0027 J	<0.0063	<0.0057	0.00050 J	0.00070 J	0.0040 J	0.55	0.0080	0.0010 J	0.00070 J
Xylenes (total)	0.26	1,000	<0.0061	<0.0062	0.0030 J	0.082	0.093 [0.072]	<0.0060	<0.0063	<0.0057	<0.012	<0.014	0.034 J	**2.3**	0.038	0.0050 J	0.0030 J
Total BTEX	- -	- -	0.0014 J	<0.0062	0.022 J	0.10 J	0.16 J [0.12 J]	0.10 J	0.0083	<0.0057	0.00050 J	0.00070 J	0.044 J	3.4	0.053	0.0075 J	0.010 J
Total VOCs	- -	- -	0.0014 J	<0.0062	0.022 J	0.10 J	0.16 J [0.12 J]	0.10 J	0.0083	<0.0057	0.00050 J	0.00070 J	0.044 J	3.4	0.053	0.0075 J	0.010 J
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.95	0.27 J	<0.53	0.037 J	<0.54 [0.0077 J]	<0.43	<0.41	<0.40	<0.65	<0.92	0.012 J	0.0080 J	1.6	0.017 J	0.0050 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.057 J	<0.39	<0.53	<0.49	<0.54 [<0.57]	<0.43	<0.41	<0.40	<0.65	<0.92	0.82 J	0.0030 J	0.082 J	<0.38	<0.39
Acenaphthylene	100	1,000	0.017 J	0.062 J	<0.53	<0.49	<0.54 [<0.57]	<0.43	<0.41	<0.40	<0.65	0.018 J	0.82 J	0.0090 J	0.21 J	0.0030 J	<0.39
Anthracene	100	1,000	0.20 J	0.20 J	<0.53	<0.49	<0.54 [<0.57]	<0.43	<0.41	<0.40	<0.65	0.039 J	0.0040 J	0.016 J	<0.39	0.0010 J	<0.39
Benzo(a)anthracene	1	11	0.74	0.60	<0.53	0.033 J	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.046 J	0.18 J	0.026 J	0.023 J	<0.39	0.0040 J	<0.39
Benzo(a)pyrene	0	1.1	**0.57**	**0.39**	<0.53	**0.030 J**	<0.54 [<0.57]	<0.43	<0.41	<0.40	**0.059 J**	**0.19 J**	**0.016 J**	**0.016 J**	<0.39	**0.0040 J**	<0.39
Benzo(b)fluoranthene	1	11	0.54	0.63	<0.53	0.026 J	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.044 J	0.16 J	0.030 J	0.012 J	<0.39	0.0050 J	<0.39
Benzo(g,h,i)perylene	100	1,000	0.28 J	0.30 J	<0.53	<0.49	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.048 J	0.14 J	0.014 J	0.0060 J	<0.39	0.0030 J	<0.39
Benzo(k)fluoranthene	0.8	110	0.77	0.76	<0.53	0.028 J	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.054 J	0.21 J	0.022 J	0.021 J	<0.39	0.0040 J	<0.39
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.80	0.77	<0.53	0.033 J	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.042 J	0.16 J	0.047 J	0.020 J	0.0080 J	0.0060 J	0.0020 J
Dibenzo(a,h)anthracene	0.33	1.1	0.13 J	0.16 J	<0.53	<0.49	<0.54 [<0.57]	<0.43	<0.41	<0.40	<0.65	0.055 J	**0.82 J**	<0.39	<0.39	<0.38	<0.39
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	1.5	1.0	<0.53	0.044 J	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.047 J	0.24 J	0.052 J	0.050 J	0.0020 J	0.0060 J	0.0020 J
Fluorene	30	1,000	0.11 J	0.076 J	0.026 J	0.066 J	<0.54 [<0.57]	<0.43	<0.41	<0.40	<0.65	<0.92	0.82 J	0.013 J	0.0030 J	<0.38	<0.39
Indeno(1,2,3-cd)pyrene	0.5	11	0.30 J	0.32 J	<0.53	<0.49	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.045 J	0.15 J	0.013 J	0.0070 J	<0.39	0.0020 J	<0.39
Naphthalene	12	1,000	0.60	0.39	0.028 J	0.15 J	0.21 J [0.34]	<0.43	<0.41	<0.40	<0.65	<0.92	0.010 J	0.014 J	3.0	0.16 J	0.030 J
Phenanthrene	100	1,000	0.98	0.80	<0.53	<0.49	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.015 J	0.13 J	0.056 J	0.045 J	0.010 J	0.0060 J	0.0020 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	1.4	1.1	<0.53	0.048 J	<0.54 [<0.57]	<0.43	<0.41	<0.40	0.063 J	0.27 J	0.056 J	0.039 J	0.0050 J	0.0070 J	0.0030 J
Total PAHs	- -	- -	9.9 J	7.8 J	0.054 J	0.50 J	0.21 J [0.35 J]	<0.43	<0.41	<0.40	0.46 J	1.9 J	3.6 J	0.30 J	4.9 J	0.23 J	0.044 J
Total SVOCs	0	- -	**9.9 J**	**7.8 J**	**0.054 J**	**0.50 J**	**0.21 J [0.35 J]**	<0.43	<0.41	<0.40	**0.46 J**	**1.9 J**	**3.6 J**	**0.30 J**	**4.9 J**	**0.23 J**	**0.044 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-25								SB-26						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/17/00	6 - 8 03/17/00	10 - 12 03/17/00	14 - 16 03/17/00	20 - 22 03/17/00	28 - 30 03/17/00	38 - 40 03/17/00	48 - 50 03/17/00	2 - 4 02/24/00	6 - 8 02/24/00	10 - 12 02/24/00	20 - 22 02/24/00	28 - 30 02/24/00	38 - 40 02/24/00	48 - 50 02/24/00
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	**35.1**	23.1	6.50	5.10	<0.790 [<0.780]	<0.630	<0.580	<0.550	<2.30 J	25.9 J	13.9 J	1.40	1.12	<0.570 J	<0.600 J
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-27								SB-28						
Sample Depth(Feet):	Unrestricted	Industrial	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:	(Exceedences	(Exceedences	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/01/00	03/01/00	03/01/00	03/01/00	03/01/00	03/01/00	03/01/00
X = Soil Removed During IRM:	in bold)	shaded)	X	X	X	X					X	X	X				
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.010 J	<0.010 J	0.022 J	0.0020 J	0.029	0.0090	0.0010 J	**0.067**	0.00050 J	0.0020 J	0.00090 J	0.0010 J	**0.11**	**0.093**	0.00060 J
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.010 J	<0.010 J	0.0040 J	0.00080 J	0.023	0.0090	0.0010 J	0.00080 J	<0.0050	<0.0050	0.00090 J	0.0010 J	0.0010 J	0.061	0.00060 J
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	<0.010 J	<0.010 J	0.044 J	0.0070	0.053	0.012	0.00060 J	0.00070 J	0.00040 J	0.0020 J	0.0020 J	0.0020 J	0.14	0.099	0.00090 J
Xylenes (total)	0.26	1,000	<0.010 J	<0.010 J	0.052 J	0.015	**0.34**	0.098	0.0010 J	0.0010 J	<0.0050	0.00060 J	0.010	0.015	0.026	0.16	0.0020 J
Total BTEX	- -	- -	<0.010	<0.010	0.12 J	0.025 J	0.45	0.13	0.0036 J	0.070 J	0.00090 J	0.0046 J	0.014 J	0.019 J	0.28 J	0.41	0.0041 J
Total VOCs	- -	- -	<0.010	<0.010	0.12 J	0.025 J	0.45	0.13	0.0036 J	0.070 J	0.00090 J	0.0046 J	0.014 J	0.019 J	0.28 J	0.41	0.0041 J
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	<0.73 J	0.050 J	2.6 J	0.56	2.2	0.27 J	0.016 J	0.017 J	0.29 J	1.2 J	2.3	2.3	0.0090 J	0.016 J	<0.33
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	<0.73 J	0.018 J	0.26 J	0.050 J	0.11 J	0.0090 J	0.0020 J	<0.40	0.23 J	6.0 J	0.16 J	0.19 J	<0.33	<0.33	<0.33
Acenaphthylene	100	1,000	<0.73 J	0.26 J	1.0 J	0.28 J	1.0	0.084 J	0.011 J	0.0070 J	1.3 J	6.4 J	1.1	1.1	<0.33	<0.33	<0.33
Anthracene	100	1,000	<0.73 J	0.32 J	0.52 J	0.035 J	<1.0	<0.80	0.013 J	0.010 J	4.2	24	0.42 J	0.049 J	<0.33	0.0090 J	<0.33
Benzo(a)anthracene	1	11	0.0060 J	0.99 J	0.35 J	<0.44	<1.0	<0.80	0.010 J	0.012 J	**12**	**38**	**1.9**	<0.33	<0.33	0.057 J	<0.33
Benzo(a)pyrene	0	1.1	**0.0090 J**	**0.98 J**	**0.31 J**	<0.44	<1.0	<0.80	**0.0090 J**	**0.0090 J**	**11**	**34**	**1.9**	<0.33	<0.33	**0.058 J**	<0.33
Benzo(b)fluoranthene	1	11	0.010 J	0.81 J	0.28 J	<0.44	<1.0	<0.80	0.0080 J	0.0090 J	**14**	**40**	**1.8**	<0.33	<0.33	0.053 J	<0.33
Benzo(g,h,i)perylene	100	1,000	0.0070 J	0.94 J	0.23 J	<0.44	<1.0	<0.80	0.0040 J	0.0040 J	1.0 J	3.5 J	0.21 J	<0.33	<0.33	0.023 J	<0.33
Benzo(k)fluoranthene	0.8	110	0.010 J	**1.1 J**	0.27 J	<0.44	<1.0	<0.80	0.0090 J	0.010 J	**21**	**54**	**2.4**	<0.33	<0.33	0.069 J	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.011 J	1.0 J	0.34 J	<0.44	<1.0	0.0040 J	0.010 J	0.013 J	**11**	**39**	**2.0**	<0.33	<0.33	0.061 J	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	<0.73 J	0.30 J	0.067 J	<0.44	<1.0	<0.80	<0.39	0.0020 J	**0.55 J**	**2.1 J**	0.097 J	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.0050 J	1.4	0.70 J	0.011 J	<1.0	0.0050 J	0.023 J	0.025 J	17	62	2.3	0.011 J	<0.33	0.050 J	<0.33
Fluorene	30	1,000	<0.73 J	0.035 J	0.75 J	0.19 J	0.23 J	0.013 J	0.015 J	0.0070 J	1.2 J	11	0.68 J	0.89	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	0.5	11	0.0070 J	**0.84 J**	0.20 J	<0.44	<1.0	<0.80	0.0040 J	0.0040 J	**1.3 J**	**4.3 J**	0.26 J	<0.33	<0.33	0.026 J	<0.33
Naphthalene	12	1,000	0.0050 J	0.054 J	2.6 J	1.1	6.9	4.2	1.3	0.13 J	0.37 J	0.60 J	4.7	2.8	0.25 J	2.0	<0.33
Phenanthrene	100	1,000	0.0040 J	0.46 J	2.9 J	0.18 J	0.0060 J	0.012 J	0.035 J	0.032 J	9.9	59	1.1	0.17 J	<0.33	0.029 J	<0.33
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.0050 J	1.6	0.59 J	0.0070 J	<1.0	0.0070 J	0.016 J	0.022 J	13	48	2.3	0.010 J	<0.33	0.053 J	<0.33
Total PAHs	- -	- -	0.079 J	11 J	14 J	2.4 J	10 J	4.6 J	1.5 J	0.31 J	120 J	430 J	26 J	7.5 J	0.26 J	2.5 J	<0.33
Total SVOCs	0	- -	**0.079 J**	**11 J**	**14 J**	**2.4 J**	**10 J**	**4.6 J**	**1.5 J**	**0.31 J**	**120 J**	**430 J**	**26 J**	**7.5 J**	**0.26 J**	**2.5 J**	<0.33

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-27								SB-28						
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/02/00	03/01/00	03/01/00	03/01/00	03/01/00	03/01/00	03/01/00	03/01/00
X = Soil Removed During IRM:			X	X	X	X					X	X	X				
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	1.45 J	5.95 J	**65.9 J**	<0.680 J	<0.820	<0.590	<0.600	<0.610	0.630	0.940	0.830	0.790	0.640	0.560	0.590
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-29						SB-30							
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	6 - 8 03/01/00 X	10 - 12 03/01/00 X	14 - 16 03/01/00 X	20 - 22 03/01/00	38 - 40 03/01/00	48 - 50 03/01/00	2 - 4 03/13/00	6 - 8 03/13/00	10 - 12 03/13/00	20 - 22 03/13/00	24 03/13/00	28 - 30 03/13/00	38 - 40 03/13/00	48 - 50 03/13/00
Volatile Organics																
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0050	0.00040 J [<0.0050]	0.00050 J	<0.0050	0.0020 J	<0.0050	NA	<0.012 J	0.0048 J	<0.0071 J [<0.012 J]	<0.0079	0.0021 J	<0.0058	<0.0059
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0050	<0.0050 [<0.0050]	<0.0050	<0.0050	<0.0050	<0.0050	NA	<0.012 J	0.012 J	0.026 J [0.077 J]	<0.0079	0.0094	0.0012 J	<0.0059
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.00070 J	0.00080 J [0.00070 J]	0.00080 J	0.00040 J	0.00040 J	0.00040 J	NA	<0.012 J	0.011 J	0.0055 J [0.012 J]	<0.0079	0.020	0.0025 J	<0.0059
Xylenes (total)	0.26	1,000	<0.0050	0.00090 J [0.00070 J]	<0.0050	0.0010 J	0.00060 J	<0.0050	NA	<0.012 J	0.050 J	**0.23 J [0.49 J]**	<0.0079	0.059	0.0047 J	<0.0059
Total BTEX	- -	- -	0.00070 J	0.0021 J [0.0014 J]	0.0013 J	0.0014 J	0.0030 J	0.00040 J	NA	<0.012	0.078 J	0.26 J [0.58 J]	<0.0079	0.091 J	0.0084 J	<0.0059
Total VOCs	- -	- -	0.00070 J	0.0021 J [0.0014 J]	0.0013 J	0.0014 J	0.0030 J	0.00040 J	NA	<0.012	0.078 J	0.26 J [0.58 J]	<0.0079	0.091 J	0.0084 J	<0.0059
Semivolatile Organics																
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.062 J	0.34 J [0.16 J]	0.21 J	0.55	<0.33	<0.33	<0.55	<0.82 J	0.15 J	0.54 J [1.4 J]	NA	0.28 J	0.081 J	<0.39
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	<0.33	0.015 J [<0.33]	0.018 J	0.023 J	<0.33	<0.33	<0.55	<0.82 J	<0.97 J	0.037 J [0.090 J]	NA	0.13 J	<0.37	<0.39
Acenaphthylene	100	1,000	0.013 J	0.091 J [0.043 J]	0.034 J	0.065 J	<0.33	<0.33	<0.55	<0.82 J	<0.97 J	0.096 J [0.24 J]	NA	0.063 J	<0.37	<0.39
Anthracene	100	1,000	0.036 J	0.027 J [0.082 J]	0.035 J	0.018 J	<0.33	<0.33	<0.55	<0.82 J	<0.97 J	<0.47 [<0.49]	NA	0.48 J	0.019 J	<0.39
Benzo(a)anthracene	1	11	0.029 J	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.030 J	<0.82 J	0.085 J	<0.47 [<0.49]	NA	**1.8**	0.050 J	<0.39
Benzo(a)pyrene	0	1.1	<0.33	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	**0.059 J**	<0.82 J	<0.97 J	<0.47 [<0.49]	NA	**1.6**	**0.039 J**	<0.39
Benzo(b)fluoranthene	1	11	<0.33	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.035 J	<0.82 J	0.096 J	<0.47 [<0.49]	NA	**1.6**	0.035 J	<0.39
Benzo(g,h,i)perylene	100	1,000	<0.33	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.048 J	<0.82 J	<0.97 J	<0.47 [<0.49]	NA	0.90	<0.37	<0.39
Benzo(k)fluoranthene	0.8	110	<0.33	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.043 J	<0.82 J	0.069 J	<0.47 [<0.49]	NA	**1.6**	0.035 J	<0.39
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.072 J	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.041 J	0.048 J	0.15 J	<0.47 [<0.49]	NA	**1.8**	0.044 J	<0.39
Dibenzo(a,h)anthracene	0.33	1.1	<0.33	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	<0.55	<0.82 J	<0.97 J	<0.47 [<0.49]	NA	**0.36 J**	<0.37	<0.39
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.077 J	0.021 J [0.058 J]	<0.33	<0.33	<0.33	<0.33	<0.55	0.078 J	0.17 J	<0.47 [<0.49]	NA	2.6	0.076 J	<0.39
Fluorene	30	1,000	<0.33	0.097 J [0.055 J]	0.14 J	0.073 J	<0.33	<0.33	<0.55	<0.82 J	<0.97 J	0.054 J [0.19 J]	NA	0.18 J	<0.37	<0.39
Indeno(1,2,3-cd)pyrene	0.5	11	<0.33	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.038 J	<0.82 J	<0.97 J	<0.47 [<0.49]	NA	**0.91**	0.017 J	<0.39
Naphthalene	12	1,000	0.038 J	0.74 [0.35 J]	0.088 J	1.2	0.024 J	<0.33	<0.55	<0.82 J	0.13 J	2.7 [3.0]	NA	0.42 J	1.3	<0.39
Phenanthrene	100	1,000	0.52 J	0.028 J [0.28 J]	0.16 J	0.056 J	<0.33	<0.33	<0.55	<0.82 J	0.58 J	<0.47 [<0.49]	NA	1.8	0.047 J	<0.39
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.071 J	<0.33 [0.040 J]	<0.33	<0.33	<0.33	<0.33	0.045 J	0.049 J	0.13 J	<0.47 [<0.49]	NA	2.6	0.069 J	<0.39
Total PAHs	- -	- -	0.92 J	1.4 J [1.1 J]	0.69 J	2.0 J	0.024 J	<0.33	0.34 J	0.18 J	1.6 J	3.4 J [4.9 J]	NA	19 J	1.8 J	<0.39
Total SVOCs	0	- -	**0.92 J**	**1.4 J [1.1 J]**	**0.69 J**	**2.0 J**	**0.024 J**	<0.33	**0.34 J**	**0.18 J**	**1.6 J**	**3.4 J [4.9 J]**	NA	**19 J**	**1.8 J**	<0.39

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-29						SB-30							
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	6 - 8	10 - 12	14 - 16	20 - 22	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	20 - 22	24	28 - 30	38 - 40	48 - 50
Date Collected:			03/01/00	03/01/00	03/01/00	03/01/00	03/01/00	03/01/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00
X = Soil Removed During IRM:			X	X	X											
Inorganics																
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	**71.3**	0.730 [0.720]	0.640	0.790	0.670	0.650	NA	NA	NA	NA	NA	NA	NA	NA
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-31							SB-32										
Sample Depth(Feet): Date Collected: X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/07/00	6 - 8 03/07/00	14 - 16 03/07/00	20 - 22 03/07/00	28 - 30 03/07/00	38 - 40 03/07/00	48 - 50 03/07/00	2 - 4 03/08/00	6 - 8 03/08/00	10 - 12 03/08/00	14 - 16 03/08/00	20 - 22 03/08/00	22 - 24 03/08/00	28 - 30 03/08/00	38 - 40 03/08/00	48 - 50 03/08/00
Volatile Organics																				
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.00050 J	0.0040 J	0.0080	0.0040 J	0.013	0.0020 J	<0.0050	0.0010 J	<0.0050	0.0020 J	0.0090	0.034 J	0.024 J	0.019	0.0020 J	0.0020 J
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0050	0.0020 J	0.071	0.042	0.032	0.0020 J	<0.0050	<0.0050	0.00040 J	<0.0050	0.0050 J	0.094	0.13	0.042	0.0040 J	0.0040 J
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0010 J	0.0080	0.047	0.020	0.049	0.0020 J	<0.0050	0.0020 J	<0.0050	0.0020 J	0.0080	0.17	0.19	0.026	0.0010 J	0.0030 J
Xylenes (total)	0.26	1,000	0.0010 J	0.030	0.26	**0.50**	0.19	0.0060	<0.0050	0.00040 J	0.0020 J	0.0040 J	0.068	**0.97**	**1.5**	0.17	0.0090	0.017
Total BTEX	- -	- -	0.0025 J	0.044 J	0.39	0.57 J	0.28	0.012 J	<0.0050	0.0034 J	0.0024 J	0.0080 J	0.090 J	1.3 J	1.8 J	0.26	0.016 J	0.026 J
Total VOCs	- -	- -	0.0025 J	0.044 J	0.39	0.57 J	0.28	0.012 J	<0.0050	0.0034 J	0.0024 J	0.0080 J	0.090 J	1.3 J	1.8 J	0.26	0.016 J	0.026 J
Semivolatile Organics																				
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	1.1 J	5.7	21	2.4	0.18 J	<0.33	<0.33	<0.33	0.033 J	1.2	12	6.4 J	1.7 J	0.073 J	0.0080 J	<0.33
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.98 J	1.3 J	2.8 J	0.26 J	<0.33	<0.33	<0.33	<0.33	0.020 J	0.11 J	1.0 J	3.2 J	<0.33	0.011 J	<0.33	<0.33
Acenaphthylene	100	1,000	6.6	9.3	13	1.0	0.027 J	<0.33	<0.33	<0.33	0.18 J	0.38 J	0.74 J	0.10 J	0.34 J	0.0090 J	<0.33	<0.33
Anthracene	100	1,000	5.8	12	15	<0.33	<0.33	<0.33	<0.33	<0.33	0.20 J	0.28 J	0.80 J	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	1	11	**12**	**13**	**10**	0.029 J	<0.33	<0.33	<0.33	<0.33	0.52	0.35 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)pyrene	0	1.1	**12**	**12**	**7.8**	**0.029 J**	<0.33	<0.33	<0.33	<0.33	**0.44 J**	**0.37 J**	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	1	11	**11**	**10**	**5.9**	0.020 J	<0.33	<0.33	<0.33	<0.33	0.47 J	0.32 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(g,h,i)perylene	100	1,000	12	10	4.3 J	<0.33	<0.33	<0.33	<0.33	<0.33	0.46 J	0.074 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	0.8	110	**15**	**10**	**9.1**	0.035 J	<0.33	<0.33	<0.33	<0.33	0.50	0.34 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**14**	**13**	**8.6**	0.020 J	<0.33	<0.33	<0.33	<0.33	0.55	0.44 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	**4.8**	**3.7**	**1.5 J**	<0.33	<0.33	<0.33	<0.33	<0.33	0.15 J	0.033 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	19	24	22	0.048 J	0.0050 J	0.013 J	<0.33	<0.33	0.81	0.53	0.072 J	<0.33	<0.33	<0.33	<0.33	<0.33
Fluorene	30	1,000	1.2 J	9.2	14	1.2	<0.33	<0.33	<0.33	<0.33	0.033 J	0.54	5.1	0.77 J	<0.33	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	0.5	11	**12**	**10**	**4.9**	<0.33	<0.33	<0.33	<0.33	<0.33	0.43 J	0.093 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Naphthalene	12	1,000	1.5 J	**13**	**25**	5.5	2.6	0.024 J	<0.33	<0.33	0.085 J	1.3	11	**50**	**36**	4.7	0.20 J	0.012 J
Phenanthrene	100	1,000	12	28	37	0.22 J	0.012 J	0.011 J	<0.33	<0.33	0.32 J	1.4	4.1	0.13 J	<0.33	0.010 J	0.0040 J	<0.33
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	14	16	15	0.026 J	0.0070 J	0.010 J	<0.33	<0.33	0.80	0.49	0.032 J	<0.33	<0.33	<0.33	<0.33	<0.33
Total PAHs	- -	- -	160 J	200 J	220 J	11 J	2.8 J	0.058 J	<0.33	<0.33	6.0 J	8.3 J	35 J	61 J	38 J	4.8 J	0.21 J	0.012 J
Total SVOCs	0	- -	**160 J**	**200 J**	**220 J**	**11 J**	**2.8 J**	**0.058 J**	<0.33	<0.33	**6.0 J**	**8.3 J**	**35 J**	**61 J**	**38 J**	**4.8 J**	**0.21 J**	**0.012 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-31							SB-32								
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	22 - 24	28 - 30	38 - 40	48 - 50
Date Collected:			03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/07/00	03/08/00	03/08/00	03/08/00	03/08/00	03/08/00	03/08/00	03/08/00	03/08/00	03/08/00
X = Soil Removed During IRM:																		
Inorganics																		
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	16.4	7.58	1.45	1.70	1.17	0.610	0.650	0.520	9.56	7.21	0.640	1.78	0.760	0.600	0.600	0.590
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																		
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																		
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-33						SB-34							
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	6 - 8 03/14/00	14 - 16 03/14/00	20 - 22 03/14/00	28 - 30 03/14/00	38 - 40 03/14/00	48 - 50 03/14/00	2 - 4 03/06/00	6 - 8 03/06/00	10 - 12 03/06/00	14 - 16 03/06/00	20 - 22 03/06/00	28 - 30 03/06/00	38 - 40 03/06/00	48 - 50 03/06/00
Volatile Organics																
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.012 J	<3.5	<0.75	0.019	<0.0057 [0.0014 J]	<0.0062	<0.0050	<0.0050	0.022	0.0080	0.012	0.017	0.00030 J	<0.0050
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.012 J	<3.5	0.83	0.029	<0.0057 [0.0013 J]	<0.0062	<0.0050	<0.0050	0.027	0.011	0.013	0.048	0.00080 J	<0.0050
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	<0.012 J	<3.5	0.34 J	0.064	<0.0057 [0.0011 J]	<0.0062	<0.0050	<0.0050	0.0060 J	0.0040 J	0.023	0.086	0.00060 J	<0.0050
Xylenes (total)	0.26	1,000	<0.012 J	<3.5	**15**	**0.33**	0.0093 [0.016]	0.017	<0.0050	<0.0050	0.062	0.026	0.084	**0.27**	0.0030 J	<0.0050
Total BTEX	- -	- -	<0.012	<3.5	16 J	0.44	0.0093 [0.020 J]	0.017	<0.0050	<0.0050	0.12 J	0.049 J	0.13	0.42	0.0047 J	<0.0050
Total VOCs	- -	- -	<0.012	<3.5	16 J	0.44	0.0093 [0.020 J]	0.017	<0.0050	<0.0050	0.12 J	0.049 J	0.13	0.42	0.0047 J	<0.0050
Semivolatile Organics																
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.089 J	63 E	7.6 E	0.031 J	0.068 J [0.018 J]	0.038 J	0.22 J	0.23 J	0.30 J	0.66	1.4	0.12 J	<0.33	<0.33
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	<0.80 J	2.4	0.34 J	<0.38	<0.43 [<0.37]	<0.39	0.11 J	0.031 J	0.030 J	0.12 J	0.15 J	<0.33	<0.33	<0.33
Acenaphthylene	100	1,000	0.48 J	21 E	3.2	<0.38	0.020 J [<0.37]	<0.39	0.77	0.12 J	0.10 J	0.36 J	0.55	0.017 J	<0.33	<0.33
Anthracene	100	1,000	0.14 J	8.7 E	0.75	<0.38	<0.43 [<0.37]	<0.39	0.32 J	0.069 J	0.064 J	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	1	11	**1.6 J**	**4.7 E**	0.39 J	<0.38	<0.43 [<0.37]	<0.39	0.42 J	0.14 J	0.027 J	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)pyrene	0	1.1	**2.8 J**	**3.4**	**0.27 J**	<0.38	<0.43 [<0.37]	<0.39	**0.44 J**	**0.12 J**	**0.018 J**	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	1	11	**2.5 J**	**2.6**	0.23 J	<0.38	<0.43 [<0.37]	<0.39	0.34 J	0.17 J	0.0060 J	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(g,h,i)perylene	100	1,000	1.7 J	1.2	0.13 J	<0.38	<0.43 [<0.37]	<0.39	0.83	0.20 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	0.8	110	**2.6 J**	**3.4**	0.25 J	<0.38	<0.43 [<0.37]	<0.39	0.41 J	0.17 J	0.011 J	<0.33	<0.33	<0.33	<0.33	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**1.5 J**	**3.7**	0.33 J	<0.38	<0.43 [<0.37]	<0.39	0.55 J	0.20 J	0.027 J	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	**0.63 J**	**0.45 J**	0.050 J	<0.38	<0.43 [<0.37]	<0.39	**0.38 J**	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	2.5 J	0.55	1.2	<0.38	<0.43 [<0.37]	<0.39	0.43 J	0.17 J	0.17 J	0.0050 J	0.012 J	<0.33	<0.33	<0.33
Fluorene	30	1,000	0.042 J	13 E	1.6	<0.38	0.022 J [<0.37]	<0.39	0.083 J	0.14 J	0.15 J	0.57	0.66	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	0.5	11	**1.9 J**	**1.5**	0.14 J	<0.38	<0.43 [<0.37]	<0.39	**0.82**	0.14 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Naphthalene	12	1,000	0.22 J	**210 E**	**31 E**	2.2	0.60 [0.20 J]	0.28 J	0.55 J	0.086 J	0.36 J	0.39 J	1.9	3.4	0.15 J	<0.33
Phenanthrene	100	1,000	0.24 J	27 E	2.4	0.026 J	0.039 J [<0.37]	<0.39	0.54 J	0.36 J	0.22 J	0.13 J	0.050 J	0.0090 J	<0.33	<0.33
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	1.5 J	0.38 J	0.66	<0.38	<0.43 [<0.37]	<0.39	0.41 J	0.12 J	0.11 J	<0.33	0.0070 J	0.0050 J	<0.33	<0.33
Total PAHs	- -	- -	20 J	370 J	51 J	2.3 J	0.75 J [0.22 J]	0.32 J	7.6 J	2.5 J	1.6 J	2.2 J	4.7 J	3.6 J	0.15 J	<0.33
Total SVOCs	0	- -	**20 J**	**370 J**	**51 J**	**2.3 J**	**0.75 J [0.22 J]**	**0.32 J**	**7.6 J**	**2.5 J**	**1.6 J**	**2.2 J**	**4.7 J**	**3.6 J**	**0.15 J**	<0.33

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-33						SB-34							
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	6 - 8 03/14/00	14 - 16 03/14/00	20 - 22 03/14/00	28 - 30 03/14/00	38 - 40 03/14/00	48 - 50 03/14/00	2 - 4 03/06/00	6 - 8 03/06/00	10 - 12 03/06/00	14 - 16 03/06/00	20 - 22 03/06/00	28 - 30 03/06/00	38 - 40 03/06/00	48 - 50 03/06/00
Inorganics																
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	20.1 J	9.60	<0.780	<0.560	<0.640 [<0.570]	<0.490	4.80	**44.4**	**28.3**	1.38	1.55	1.19	0.650	0.600
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-35							SB-35A		SB-36							
Sample Depth(Feet): Date Collected: X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/08/00	6 - 8 03/08/00	16 - 18 03/08/00	18 - 20 03/08/00	28 - 30 03/08/00	38 - 40 03/08/00	48 - 50 03/08/00	10 - 12 03/09/00	14 - 16 03/09/00	2 - 4 03/15/00	6 - 8 03/15/00	10 - 12 03/15/00	14 - 16 03/15/00	20 - 22 03/15/00	28 - 30 03/15/00	38 - 40 03/15/00	48 - 50 03/15/00
Volatile Organics																			
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.00030 J	0.00040 J [0.00050 J]	0.0070	0.0020 J	0.011	0.051	<0.0050	0.0030 J	0.00050 J	<0.0050	0.00090 J [0.0010 J]	**<0.0050 J [0.17 J]**	**0.19 J**	0.059 J	**0.068**	**0.12**	**0.12**
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0050	<0.0050 [0.0020 J]	0.010	0.012	0.024	0.00040 J	<0.0050	<0.0050	0.0020 J	<0.0050	<0.0050 [<0.0050]	<0.0050 J [0.36 J]	0.34 J	0.64 J	0.041	0.0020 J	<0.0050
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0010 J	<0.0050 [0.0030 J]	0.0090	0.0050 J	0.041	0.0010 J	<0.0050	0.00060 J	0.00070 J	0.00030 J	0.00050 J [0.00080 J]	0.14 J [0.41 J]	0.24 J	**1.2 J**	0.041	0.0020 J	<0.0050
Xylenes (total)	0.26	1,000	0.0020 J	<0.0050 [0.024]	0.052	0.075	0.24	0.0040 J	<0.0050	0.0010 J	0.010	<0.0050	<0.0050 [<0.0050]	**2.3 J [11 J]**	**12**	**13**	0.23	0.018	0.0020 J
Total BTEX	- -	- -	0.0033 J	0.00040 J [0.030 J]	0.078	0.094 J	0.32	0.056 J	<0.0050	0.0046 J	0.013 J	0.00030 J	0.0014 J [0.0018 J]	2.4 J [12 J]	13 J	15 J	0.38	0.14 J	0.12 J
Total VOCs	- -	- -	0.0033 J	0.00040 J [0.030 J]	0.078	0.094 J	0.32	0.056 J	<0.0050	0.0046 J	0.013 J	0.00030 J	0.0014 J [0.0018 J]	2.4 J [12 J]	13 J	15 J	0.38	0.14 J	0.12 J
Semivolatile Organics																			
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	NA	0.43 J [0.46 J]	NA	1.9	0.21 J	0.011 J	<0.33	0.21 J	3.0	0.070 J	<0.33 J [<0.33 J]	670 [140]	160 J	0.088 J	0.041 J	0.028 J	0.022 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	NA	0.18 J [0.16 J]	NA	0.12 J	<0.33	<0.33	<0.33	0.32 J	0.21 J	<0.33	6.2 J [4.3 J]	**32 J [6.8 J]**	8.0 J	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	100	1,000	NA	0.65 J [0.73 J]	NA	0.68 J	0.037 J	<0.33	<0.33	0.20 J	0.83	0.052 J	21 J [7.2 J]	**140 J [31 J]**	51 J	0.072 J	0.0090 J	<0.33	<0.33
Anthracene	100	1,000	NA	1.1 [0.97 J]	NA	0.081 J	<0.33	<0.33	<0.33	0.54	0.50	0.015 J	49 J [29 J]	**150 J [32 J]**	35 J	0.014 J	0.0070 J	<0.33	<0.33
Benzo(a)anthracene	1	11	NA	**2.8 [5.0]**	NA	0.021 J	<0.33	<0.33	<0.33	**2.9**	<0.33	0.10 J	**26 J [14 J]**	**69 J [12 J]**	**18 J**	<0.33	<0.33	<0.33	<0.33
Benzo(a)pyrene	0	1.1	NA	**2.8 [4.8]**	NA	**0.010 J**	<0.33	<0.33	<0.33	**2.6**	<0.33	**0.087 J**	**18 J [9.0 J]**	**53 J [7.9 J]**	**12 J**	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	1	11	NA	**2.3 [4.9]**	NA	0.0090 J	<0.33	<0.33	<0.33	**2.0**	<0.33	0.13 J	**18 J [8.4 J]**	**38 J [5.4 J]**	**10 J**	<0.33	<0.33	<0.33	<0.33
Benzo(g,h,i)perylene	100	1,000	NA	2.0 [3.2]	NA	<0.33	<0.33	<0.33	<0.33	1.3	<0.33	0.084 J	8.1 J [4.3 J]	28 J [4.4 J]	6.3 J	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	0.8	110	NA	**2.9 [4.4]**	NA	0.010 J	<0.33	<0.33	<0.33	**2.4**	<0.33	0.10 J	**17 J [9.1 J]**	**82 J [12 J]**	**17 J**	<0.33	<0.33	<0.33	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	NA	**3.1 [4.9]**	NA	0.014 J	<0.33	0.0060 J	<0.33	**2.7**	<0.33	0.14 J	**23 J [12 J]**	**56 J [9.7 J]**	**15 J**	<0.33	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	NA	**0.67 J [0.92 J]**	NA	<0.33	<0.33	<0.33	<0.33	**0.36 J**	<0.33	0.026 J	**3.0 J [1.4 J]**	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	NA	4.3 [8.3]	NA	0.077 J	<0.33	<0.33	<0.33	2.6	0.083 J	0.072 J	79 J [40 J]	**230 J [45 J]**	56 J	0.022 J	0.010 J	0.0090 J	0.0070 J
Fluorene	30	1,000	NA	0.29 J [0.22 J]	NA	0.40 J	<0.33	<0.33	<0.33	0.38 J	1.3	0.0090 J	**72 J [38 J]**	**240 J [51 J]**	**57 J**	0.020 J	0.010 J	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	0.5	11	NA	**1.9 [3.0]**	NA	<0.33	<0.33	<0.33	<0.33	**1.2**	<0.33	0.076 J	**8.5 J [4.6 J]**	**29 J [4.4 J]**	**6.3 J**	<0.33	<0.33	<0.33	<0.33
Naphthalene	12	1,000	NA	0.97 J [0.88 J]	NA	4.1	10	0.58	0.022 JB	0.82 B	2.8 B	0.40 J	1.0 J [0.40 J]	**2,800 [530]**	**760**	0.36 J	2.8	0.24 J	0.11 J
Phenanthrene	100	1,000	NA	2.8 [2.5]	NA	0.26 J	<0.33	0.0050 J	<0.33	0.77	2.0	0.036 J	**130 J [76 J]**	**400 J [78 J]**	93 J	0.039 J	0.023 J	0.016 J	0.011 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	NA	4.5 [8.1]	NA	0.056 J	<0.33	0.0040 J	0.0030 J	3.1	0.030 J	0.15 J	54 J [42 J]	**130 J [27 J]**	33 J	0.014 J	0.0080 J	0.0070 J	<0.33
Total PAHs	- -	- -	NA	34 J [53 J]	NA	7.7 J	10 J	0.61 J	0.025 J	24 J	11 J	1.6 J	530 J [300 J]	5,200 J [1,000 J]	1,300 J	0.63 J	2.9 J	0.30 J	0.15 J
Total SVOCs	0	- -	NA	**34 J [53 J]**	NA	**7.7 J**	**10 J**	**0.61 J**	**0.025 J**	**24 J**	**11 J**	**1.6 J**	**530 J [300 J]**	**5,200 J [1,000 J]**	**1,300 J**	**0.63 J**	**2.9 J**	**0.30 J**	**0.15 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-35							SB-35A		SB-36							
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/08/00	6 - 8 03/08/00	16 - 18 03/08/00	18 - 20 03/08/00	28 - 30 03/08/00	38 - 40 03/08/00	48 - 50 03/08/00	10 - 12 03/09/00	14 - 16 03/09/00	2 - 4 03/15/00	6 - 8 03/15/00	10 - 12 03/15/00	14 - 16 03/15/00	20 - 22 03/15/00	28 - 30 03/15/00	38 - 40 03/15/00	48 - 50 03/15/00
Inorganics																			
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	0.550	4.35 [18.7]	0.680	0.670	0.590	0.690	0.680	1.45	0.640	NA	NA	NA	0.590	1.10	0.530	0.600	0.600
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																			
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																			
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-37								SB-38							
Sample Depth(Feet): Date Collected: X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/09/00	6 - 8 03/09/00	10 - 12 03/09/00	14 - 16 03/09/00	18 - 20 03/09/00	28 - 30 03/09/00	38 - 40 03/09/00	48 - 50 03/09/00	2 - 4 03/13/00	6 - 8 03/13/00	10 - 12 03/13/00	14 - 16 03/13/00	20 - 22 03/13/00	28 - 30 03/13/00	38 - 40 03/13/00	48 - 50 03/13/00
Volatile Organics																		
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.0010 J	<0.0050 J	<0.0050	0.00050 J	<1.0	0.016	0.0030 J	0.060	<0.0086	<0.011	<0.0087	<0.70	<0.80	0.0067 J	<0.0057	0.053
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0050	<0.0050 J	<0.0050	<0.0050	**3.2**	0.024	0.0020 J	0.00060 J	<0.0086	<0.011	<0.0087	<0.70	0.78 J	0.042	<0.0057	<0.0064
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0030 J	0.00060 J	<0.0050	0.0010 J	**1.7 J**	0.012	0.0030 J	0.0020 J	<0.0086	<0.011	<0.0087	<0.70	0.47 J	0.060	<0.0057	0.0029 J
Xylenes (total)	0.26	1,000	0.00030 J	0.00050 J	<0.0050	0.0020 J	**34**	0.14	0.018	0.0070	<0.0086	<0.011	<0.0087	<0.70	**12**	**0.53**	<0.0057	<0.0064
Total BTEX	- -	- -	0.0043 J	0.0011 J	<0.0050	0.0035 J	39 J	0.19	0.026 J	0.070 J	<0.0086	<0.011	<0.0087	<0.70	13 J	0.64 J	<0.0057	0.056 J
Total VOCs	- -	- -	0.0043 J	0.0011 J	<0.0050	0.0035 J	39 J	0.19	0.026 J	0.070 J	<0.0086	<0.011	<0.0087	<0.70	13 J	0.64 J	<0.0057	0.056 J
Semivolatile Organics																		
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	<0.33	<0.33	0.25 J	1.4	160	<0.33	0.0080 J	0.098 J	0.37 J	<0.77 J	0.30 J	19 E	130 E	0.79	<0.37	<0.40
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	<0.33	0.0080 J	0.18 J	0.21 J	9.3 J	<0.33	<0.33	0.0060 J	0.13 J	<0.77 J	0.038 J	3.5	5.2 E	0.032 J	<0.37	<0.40
Acenaphthylene	100	1,000	<0.33	<0.33	0.097 J	0.54	89 J	<0.33	<0.33	0.039 J	1.6	<0.77 J	0.10 J	0.42 J	32 E	0.33 J	<0.37	<0.40
Anthracene	100	1,000	0.0020 J	0.017 J	0.69	0.17 J	31 J	<0.33	<0.33	0.018 J	1.0	<0.77 J	0.51	21 E	19 E	0.096 J	<0.37	<0.40
Benzo(a)anthracene	1	11	0.011 J	0.041 J	1.0	0.12 J	**19 J**	<0.33	<0.33	0.012 J	**5.9 E**	0.31 J	0.59	**14 E**	**12 E**	0.077 J	<0.37	<0.40
Benzo(a)pyrene	0	1.1	**0.010 J**	**0.034 J**	**0.81**	**0.079 J**	**13 J**	<0.33	<0.33	**0.0090 J**	**5.1 E**	**0.23 J**	**0.087 J**	**10 E**	**7.7 E**	**0.52**	<0.37	<0.40
Benzo(b)fluoranthene	1	11	0.013 J	0.038 J	0.70	0.077 J	**8.8 J**	<0.33	<0.33	0.0090 J	**6.6 E**	0.20 J	0.087 J	**12 E**	**10 E**	0.40 J	<0.37	<0.40
Benzo(g,h,i)perylene	100	1,000	0.0060 J	0.017 J	0.32 J	0.033 J	5.4 J	<0.33	<0.33	0.0040 J	2.9	<0.77 J	<0.47	4.0 E	3.0	0.16 J	<0.37	<0.40
Benzo(k)fluoranthene	0.8	110	0.011 J	0.033 J	**0.83**	0.091 J	**15 J**	<0.33	<0.33	0.0090 J	**4.1 E**	0.22 J	0.10 J	**7.1 E**	**4.1 E**	0.41	<0.37	<0.40
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.013 J	0.046 J	0.98	0.11 J	**16 J**	<0.33	<0.33	0.014 J	**5.2 E**	0.29 J	0.43 J	**11 E**	**8.8 E**	0.066 J	<0.37	<0.40
Dibenzo(a,h)anthracene	0.33	1.1	<0.33	0.0070 J	0.11 J	0.014 J	<0.33	<0.33	<0.33	<0.33	**1.1**	<0.77 J	<0.47	**1.7**	**1.8**	0.060 J	<0.37	<0.40
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.025 J	0.11 J	2.6	0.41 J	47 J	<0.33	<0.33	0.040 J	14 E	0.58 J	1.4	41 E	31 E	0.11 J	<0.37	<0.40
Fluorene	30	1,000	<0.33	0.0070 J	0.54	0.98	**53 J**	<0.33	<0.33	0.028 J	0.40 J	<0.77 J	0.31 J	22 E	29 E	0.17 J	<0.37	<0.40
Indeno(1,2,3-cd)pyrene	0.5	11	0.0050 J	0.015 J	0.33 J	0.036 J	**6.6 J**	<0.33	<0.33	0.0040 J	**3.1**	0.16 J	<0.47	**4.5 E**	**3.6**	0.17 J	<0.37	<0.40
Naphthalene	12	1,000	<0.33	0.012 JB	0.31 JB	0.34 JB	**690 B**	**40 B**	0.079 JB	0.45 B	1.6	0.084 J	0.24 J	9.6 E	**360 E**	12 E	0.11 J	0.088 J
Phenanthrene	100	1,000	0.010 J	0.070 J	1.8	0.79	100	<0.33	0.0060 J	0.062 J	3.6	<0.77 J	1.4	52 E	49 E	0.28 J	<0.37	<0.40
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.018 J	0.072 J	1.9	0.25 J	50 J	<0.33	<0.33	0.022 J	9.2 E	0.54 J	1.1	22 E	20 E	0.095 J	<0.37	<0.40
Total PAHs	- -	- -	0.12 J	0.53 J	13 J	5.7 J	1,300 J	40	0.093 J	0.82 J	66 J	2.6 J	6.7 J	260 J	730	16 J	0.11 J	0.088 J
Total SVOCs	0	- -	**0.12 J**	**0.53 J**	**13 J**	**5.7 J**	**1,300 J**	**40**	**0.093 J**	**0.82 J**	**66 J**	**2.6 J**	**6.7 J**	**260 J**	**730**	**16 J**	**0.11 J**	**0.088 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-37								SB-38							
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	14 - 16	18 - 20	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			03/09/00	03/09/00	03/09/00	03/09/00	03/09/00	03/09/00	03/09/00	03/09/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00	03/13/00
X = Soil Removed During IRM:																		
Inorganics																		
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	0.500	0.550	1.34	1.30	1.58	0.560	0.620	0.560	NA	NA	NA	NA	NA	NA	<0.530	<0.540
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																		
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																		
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-39							SB-40					
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/09/00	6 - 8 03/09/00	10 - 12 03/09/00	14 - 16 03/09/00	28 - 30 03/09/00	38 - 40 03/09/00	48 - 50 03/09/00	2 - 4 03/23/00	10 - 12 03/23/00	14 - 16 03/23/00	28 - 30 03/23/00	38 - 40 03/23/00	48 - 50 03/23/00
Volatile Organics															
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0050 J	NA	0.00040 J	0.0010 J	0.027	0.025	0.0020 J	<0.0068	<0.0069	0.0031 J	0.024	0.0024 J	<0.0057
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0050 J	NA	0.0090	0.012	0.031	<0.0050	<0.0050	<0.0068	<0.0069	0.028	0.061	0.0028 J	<0.0057
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.00030 J	NA	0.0010 J	0.0040 J	0.097	0.00070 J	0.00040 J	0.021	0.0022 J	0.0087	0.046	0.0076	0.0031 J
Xylenes (total)	0.26	1,000	0.00050 J	NA	0.065	0.083	**0.40**	0.0050 J	0.00090 J	0.0015 J	0.0020 J	0.10	**0.33**	0.041	0.014
Total BTEX	- -	- -	0.00080 J	NA	0.075 J	0.10 J	0.56	0.031 J	0.0033 J	0.023 J	0.0042 J	0.14 J	0.46	0.054 J	0.017 J
Total VOCs	- -	- -	0.00080 J	NA	0.075 J	0.10 J	0.56	0.031 J	0.0033 J	0.023 J	0.0042 J	0.14 J	0.46	0.054 J	0.017 J
Semivolatile Organics															
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	<0.33 J	NA	4.6 J	1.4	0.42 J	0.031 J	0.0090 J	0.17 J	<0.46	0.95	<1.6	0.068 J	0.085 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	<0.33 J	NA	0.15 J	0.082 J	<0.33	<0.33	<0.33	<0.42	0.24 J	0.064 J	<1.6	<0.39	<0.38
Acenaphthylene	100	1,000	0.0090 J	NA	0.78 J	0.32 J	0.096 J	0.014 J	0.0040 J	<0.42	<0.46	0.37 J	<1.6	0.024 J	0.026 J
Anthracene	100	1,000	<0.33 J	NA	0.22 J	0.084 J	0.024 J	0.0080 J	<0.33	<0.42	0.22 J	0.034 J	<1.6	<0.39	<0.38
Benzo(a)anthracene	1	11	0.010 J	NA	0.45 J	<0.33	<0.33	0.0050 J	<0.33	0.45	0.093 J	<0.51	<1.6	<0.39	<0.38
Benzo(a)pyrene	0	1.1	**0.012 J**	NA	**0.43 J**	<0.33	<0.33	**0.0040 J**	<0.33	**0.15 J**	<0.46	<0.51	<1.6	<0.39	<0.38
Benzo(b)fluoranthene	1	11	0.015 J	NA	0.30 J	<0.33	<0.33	0.0050 J	<0.33	0.90	<0.46	<0.51	<1.6	<0.39	<0.38
Benzo(g,h,i)perylene	100	1,000	0.011 J	NA	0.23 J	<0.33	<0.33	<0.33	<0.33	0.47	<0.46	<0.51	<1.6	<0.39	<0.38
Benzo(k)fluoranthene	0.8	110	0.010 J	NA	0.44 J	<0.33	<0.33	0.0040 J	<0.33	**1.0**	0.064 J	<0.51	<1.6	<0.39	<0.38
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.013 J	NA	0.46 J	<0.33	<0.33	0.0060 J	<0.33	0.72	0.11 J	<0.51	<1.6	<0.39	<0.38
Dibenzo(a,h)anthracene	0.33	1.1	<0.33 J	NA	0.085 J	<0.33	<0.33	<0.33	<0.33	0.24 J	<0.46	<0.51	<1.6	<0.39	<0.38
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	<0.33 J	NA	0.91 J	<0.33	0.038 J	0.015 J	<0.33	0.12 J	0.35 J	<0.51	<1.6	<0.39	0.018 J
Fluorene	30	1,000	<0.33 J	NA	0.60 J	0.33 J	0.041 J	0.013 J	<0.33	<0.42	0.28 J	0.34 J	<1.6	<0.39	0.023 J
Indeno(1,2,3-cd)pyrene	0.5	11	0.011 J	NA	0.25 J	<0.33	<0.33	<0.33	<0.33	**0.60**	<0.46	<0.51	<1.6	<0.39	<0.38
Naphthalene	12	1,000	<0.33	NA	**22 B**	4.3 B	10 B	0.15 JB	0.034 JB	0.76	<0.46	2.3	6.8	0.45	0.36 J
Phenanthrene	100	1,000	<0.33 J	NA	0.70 J	0.57 J	0.081 J	0.026 J	0.0070 J	0.11 J	<0.46	0.20 J	<1.6	0.032 J	0.046 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.0080 J	NA	0.73 J	<0.33	<0.33	0.0090 J	<0.33	0.082 J	0.24 J	<0.51	<1.6	0.018 J	<0.38
Total PAHs	- -	- -	0.099 J	NA	33 J	7.1 J	11 J	0.29 J	0.054 J	5.8 J	1.6 J	4.3 J	6.8	0.59 J	0.56 J
Total SVOCs	0	- -	**0.099 J**	NA	**33 J**	**7.1 J**	**11 J**	**0.29 J**	**0.054 J**	**5.8 J**	**1.6 J**	**4.3 J**	**6.8**	**0.59 J**	**0.56 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-39							SB-40					
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/09/00	6 - 8 03/09/00	10 - 12 03/09/00	14 - 16 03/09/00	28 - 30 03/09/00	38 - 40 03/09/00	48 - 50 03/09/00	2 - 4 03/23/00	10 - 12 03/23/00	14 - 16 03/23/00	28 - 30 03/23/00	38 - 40 03/23/00	48 - 50 03/23/00
Inorganics															
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	1.32 J	**36.5 J**	0.640	0.730	0.630	0.630	0.600	1.90 N	<0.710	<0.760 N	<0.510 N	<0.460 N	<0.510 N
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs															
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides															
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-41							SB-42						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/22/00	6 - 8 03/22/00	10 - 12 03/22/00	14 - 16 03/22/00	28 - 30 03/22/00	38 - 40 03/22/00	48 - 50 03/22/00	2 - 4 03/21/00	6 - 8 03/21/00	10 - 12 03/21/00	14 - 16 03/21/00	28 - 30 03/21/00	38 - 40 03/21/00	48 - 50 03/21/00
Volatile Organics																
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0069	<0.011 J	<0.0075	0.0019 J	0.021 J	**0.067**	0.0021 J	<0.0054	<0.011	<0.025	<2.2	**0.068**	0.0028 J	<0.0052
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0069	<0.011 J	0.0027 J	0.0068 J	0.025 J	0.033	<0.0057	<0.0054	0.16	0.29	<2.2	0.15	0.0020 J	<0.0052
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0017 J	<0.011 J	<0.0075	0.0028 J	0.031	0.023	0.0013 J	<0.0054	0.066	0.11	<2.2	0.30	0.0020 J	0.0015 J
Xylenes (total)	0.26	1,000	<0.0069	<0.011 J	0.0047 J	0.016	0.16	0.18	0.0023 J	<0.0054	**1.0**	**1.8**	<2.2	**1.6**	0.010	0.0039 J
Total BTEX	- -	- -	0.0017 J	<0.011	0.0074 J	0.028 J	0.24 J	0.30	0.0057 J	<0.0054	1.2	2.2	<2.2	2.1	0.017 J	0.0054 J
Total VOCs	- -	- -	0.0017 J	<0.011	0.0074 J	0.028 J	0.24 J	0.30	0.0057 J	<0.0054	1.2	2.2	<2.2	2.1	0.017 J	0.0054 J
Semivolatile Organics																
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.41 J	<0.71 J	<0.49	0.12 J	<1.0	0.028 J	<0.39	0.065 J	1.8	0.83	16 E	0.50	0.32 J	<0.39
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.12 J	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	<0.36	<0.70	0.082 J	1.6	<0.38	0.029 J	<0.39
Acenaphthylene	100	1,000	<2.2	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	0.017 J	0.41 J	0.25 J	11 E	0.20 J	0.17 J	<0.39
Anthracene	100	1,000	2.0 J	<0.71 J	0.079 J	<0.48	<1.0	<0.38	<0.39	<0.36	0.34 J	0.21 J	5.8 E	0.029 J	0.086 J	<0.39
Benzo(a)anthracene	1	11	**7.6**	<0.71 J	<0.49	0.029 J	<1.0	0.021 J	<0.39	<0.36	0.22 J	0.34 J	**4.1 E**	0.033 J	0.056 J	<0.39
Benzo(a)pyrene	0	1.1	**5.7**	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	<0.36	**0.14 J**	**0.38 J**	**2.7**	**0.032 J**	**0.043 J**	<0.39
Benzo(b)fluoranthene	1	11	**6.4**	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	<0.36	0.14 J	0.33 J	**2.2**	0.037 J	0.040 J	<0.39
Benzo(g,h,i)perylene	100	1,000	2.6	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	<0.36	0.053 J	0.31 J	1.1	<0.38	0.027 J	<0.39
Benzo(k)fluoranthene	0.8	110	**5.2**	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	<0.36	0.13 J	0.30 J	**2.6**	0.023 J	0.045 J	<0.39
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**7.5**	<0.71 J	<0.49	0.028 J	<1.0	0.023 J	<0.39	<0.36	0.24 J	0.42 J	**3.3**	0.026 J	0.046 J	<0.39
Dibenzo(a,h)anthracene	0.33	1.1	**0.93 J**	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	<0.36	<0.70	0.10 J	**0.49**	<0.38	<0.40	<0.39
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	14	0.048 J	0.51	0.048 J	<1.0	0.045 J	<0.39	<0.36	0.72	0.76	9.9 E	0.051 J	0.14 J	<0.39
Fluorene	30	1,000	0.22 J	<0.71 J	0.043 J	0.031 J	<1.0	<0.38	<0.39	<0.36	0.38 J	0.24 J	8.7 E	0.042 J	0.12 J	<0.39
Indeno(1,2,3-cd)pyrene	0.5	11	**2.8**	<0.71 J	<0.49	<0.48	<1.0	<0.38	<0.39	<0.36	0.051 J	0.25 J	**1.3**	<0.38	0.030 J	<0.39
Naphthalene	12	1,000	0.60 J	<0.71 J	0.040 J	0.21 J	6.5	1.8	0.098 J	0.053 J	4.9	2.3	4.5 E	8.2 E	2.8	0.037 J
Phenanthrene	100	1,000	7.2	<0.71 J	0.16 J	0.074 J	<1.0	0.030 J	<0.39	<0.36	1.5	1.0	18 E	0.092 J	0.23 J	<0.39
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	13	0.038 J	0.39 J	0.048 J	<1.0	0.040 J	<0.39	<0.36	0.47 J	0.70 J	6.8 E	0.029 J	0.091 J	<0.39
Total PAHs	- -	- -	76 J	0.086 J	1.2 J	0.59 J	6.5	2.0 J	0.098 J	0.14 J	12 J	8.8 J	100	9.3 J	4.3 J	0.037 J
Total SVOCs	0	- -	**76 J**	**0.086 J**	**1.2 J**	**0.59 J**	**6.5**	**2.0 J**	**0.098 J**	**0.14 J**	**12 J**	**8.8 J**	**100**	**9.3 J**	**4.3 J**	**0.037 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-41							SB-42						
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	14 - 16	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	14 - 16	28 - 30	38 - 40	48 - 50
Date Collected:			03/22/00	03/22/00	03/22/00	03/22/00	03/22/00	03/22/00	03/22/00	03/21/00	03/21/00	03/21/00	03/21/00	03/21/00	03/21/00	03/21/00
X = Soil Removed During IRM:																
Inorganics																
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	12.9	**101**	3.00	6.30	<0.530	<0.520	<0.490	<0.520	9.30	**120**	2.20	<0.580	<0.600	<0.520
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-43							SB-44						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/24/00	6 - 8 03/24/00	10 - 12 03/24/00	14 - 16 03/24/00	28 - 30 03/24/00	38 - 40 03/24/00	48 - 50 03/24/00	2 - 4 03/28/00	10 - 12 03/28/00	14 - 16 03/28/00	20 - 22 03/28/00	28 - 30 03/28/00	38 - 40 03/28/00	48 - 50 03/28/00
Volatile Organics																
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0054	<0.013	0.0094	<0.014 J	<0.028 [0.013 J]	<0.0062	<0.0061	<0.0060	0.0019 J	0.0045 J	**0.24 J**	0.035	<0.0058	<0.0061
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0054	0.0029 J	0.20	<0.014 J	0.021 J [0.026]	<0.0062	<0.0061	<0.0060	0.041	0.081	0.53 J	0.13	<0.0058	<0.0061
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0034 J	0.0078 J	0.022	<0.014 J	0.045 [0.080]	0.0017 J	<0.0061	0.0023 J	<0.0086	0.033	**2.4**	0.082	<0.0058	0.0044 J
Xylenes (total)	0.26	1,000	<0.0054	0.061	0.16	0.064 J	**0.28 [0.33]**	<0.0062	<0.0061	<0.0060	0.020	0.22	**5.0**	**0.50**	<0.0058	0.0081
Total BTEX	- -	- -	0.0034 J	0.072 J	0.39	0.064 J	0.35 J [0.45 J]	0.0017 J	<0.0061	0.0023 J	0.063 J	0.34 J	8.2 J	0.75	<0.0058	0.013 J
Total VOCs	- -	- -	0.0034 J	0.072 J	0.39	0.064 J	0.35 J [0.45 J]	0.0017 J	<0.0061	0.0023 J	0.063 J	0.34 J	8.2 J	0.75	<0.0058	0.013 J
Semivolatile Organics																
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.19 J	0.20 J	0.84	2.5	0.73 J [0.51 J]	0.063 J	0.10 J	0.42 J	0.15 J	0.95	5.7	2.9	0.074 J	0.14 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.49 J	4.0	0.32 J	0.12 J	<2.0 [<1.3]	<0.41	<0.39	1.6 J	0.053 J	0.14 J	0.52 J	0.26 J	<0.38	<0.59
Acenaphthylene	100	1,000	<1.2	<0.82	0.31 J	1.0 J	0.26 J [0.18 J]	0.022 J	0.061 J	0.40 J	0.066 J	0.43 J	2.7 J	1.4 J	0.028 J	0.057 J
Anthracene	100	1,000	1.5	2.9	1.5	0.16 J	<2.0 [0.089 J]	0.054 J	0.040 J	3.0	0.14 J	0.071 J	0.67 J	0.63 J	0.032 J	0.074 J
Benzo(a)anthracene	1	11	**2.4**	**2.6**	0.79	0.34 J	<2.0 [<1.3]	<0.41	0.043 J	**9.9**	0.35 J	0.21 J	<2.8	0.23 J	0.019 J	0.054 J
Benzo(a)pyrene	0	1.1	**2.1**	**2.2**	**0.59 J**	**0.33 J**	<2.0 [<1.3]	<0.41	**0.034 J**	**9.9**	**0.39 J**	**0.18 J**	<2.8	**0.17 J**	<0.38	**0.041 J**
Benzo(b)fluoranthene	1	11	**1.6**	**1.7**	0.43 J	0.24 J	<2.0 [<1.3]	<0.41	0.032 J	**7.6**	0.32 J	0.16 J	<2.8	0.13 J	<0.38	0.034 J
Benzo(g,h,i)perylene	100	1,000	1.3	1.0	0.24 J	0.16 J	<2.0 [<1.3]	<0.41	0.019 J	5.7	0.29 J	0.11 J	<2.8	<1.8	<0.38	<0.59
Benzo(k)fluoranthene	0.8	110	**2.0**	**2.4**	0.63 J	0.34 J	<2.0 [<1.3]	<0.41	0.033 J	**11**	0.42 J	0.17 J	<2.8	0.18 J	<0.38	0.049 J
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**2.3**	**2.3**	0.73	0.29 J	<2.0 [<1.3]	<0.41	0.040 J	**9.7**	0.41 J	0.22 J	<2.8	0.20 J	<0.38	0.050 J
Dibenzo(a,h)anthracene	0.33	1.1	**0.39 J**	**0.36 J**	0.11 J	<1.8	<2.0 [<1.3]	<0.41	<0.39	**2.2**	0.11 J	<0.94	<2.8	<1.8	<0.38	<0.59
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	4.6	6.3	2.6	0.31 J	<2.0 [<1.3]	0.031 J	0.094 J	14	0.60	0.32 J	0.55 J	0.70 J	0.047 J	0.13 J
Fluorene	30	1,000	0.64 J	3.3	0.88	0.50 J	0.16 J [<1.3]	<0.41	0.052 J	1.2 J	0.066 J	0.32 J	1.8 J	1.3 J	0.048 J	0.10 J
Indeno(1,2,3-cd)pyrene	0.5	11	**1.2**	**1.2**	0.26 J	0.18 J	<2.0 [<1.3]	<0.41	0.020 J	**5.7**	0.27 J	0.11 J	<2.8	0.085 J	<0.38	<0.59
Naphthalene	12	1,000	0.44 J	1.4	2.5	9.7	10 [7.8]	0.52	0.80	0.77 J	1.0	4.8	**17**	7.6	0.26 J	0.57 J
Phenanthrene	100	1,000	5.2	1.2	3.9	0.48 J	0.16 J [0.085 J]	0.051 J	0.14 J	10 J	0.53 J	0.25 J	2.2 J	2.0 J	0.11 J	0.26 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	3.9	4.6	2.2	0.18 J	<2.0 [<1.3]	0.025 J	0.074 J	14	0.62	0.27 J	0.36 J	0.41 J	0.038 J	0.095 J
Total PAHs	- -	- -	30 J	38 J	19 J	17 J	11 J [8.7 J]	0.77 J	1.6 J	110 J	5.8 J	8.7 J	32 J	18 J	0.66 J	1.7 J
Total SVOCs	0	- -	**30 J**	**38 J**	**19 J**	**17 J**	**11 J [8.7 J]**	**0.77 J**	**1.6 J**	**110 J**	**5.8 J**	**8.7 J**	**32 J**	**18 J**	**0.66 J**	**1.7 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-43							SB-44						
Sample Depth(Feet): Date Collected: X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/24/00	6 - 8 03/24/00	10 - 12 03/24/00	14 - 16 03/24/00	28 - 30 03/24/00	38 - 40 03/24/00	48 - 50 03/24/00	2 - 4 03/28/00	10 - 12 03/28/00	14 - 16 03/28/00	20 - 22 03/28/00	28 - 30 03/28/00	38 - 40 03/28/00	48 - 50 03/28/00
Inorganics																
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	<0.490 N	<0.580 N	<0.710 N	1.60 N	<0.560 N [<0.540]	<0.560 N	<57.0 NR	9.50	22.2	12.8	<0.610	<0.560	<0.570	<0.810
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-45							SB-46							
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	14 - 16	28 - 30	38 - 40	48 - 50	2 - 4	6 - 8	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00	03/27/00
X = Soil Removed During IRM:																	
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.0017 J	<0.010 J	<0.040	0.0031 J	0.016	0.011 [<0.0058]	0.0014 J	<0.0098	<0.014 J	<0.0067	<0.024	**0.75**	<0.60	0.0014 J	0.0014 J
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0060	<0.010 J	0.25	0.070	0.036	0.0022 J [<0.0058]	<0.0059	<0.0098	0.0031 J	0.0019 J	0.10	0.29 J	0.25 J	<0.0058	<0.0058
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0027 J	<0.010 J	0.073	0.028	0.020	0.0034 J [<0.0058]	0.0020 J	<0.0098	0.0046 J	<0.0067	0.030	**3.8**	0.15 J	0.0020 J	0.0015 J
Xylenes (total)	0.26	1,000	<0.0060	<0.010 J	**0.96**	**0.37**	0.13	0.014 [<0.0058]	<0.0059	<0.0098	0.062	0.011	**0.32**	**4.2**	**1.2**	<0.0058	<0.0058
Total BTEX	- -	- -	0.0044 J	<0.010	1.3	0.47 J	0.20	0.031 J [<0.0058]	0.0034 J	<0.0098	0.070 J	0.013 J	0.45	9.0 J	1.6 J	0.0034 J	0.0029 J
Total VOCs	- -	- -	0.0044 J	<0.010	1.3	0.47 J	0.20	0.031 J [<0.0058]	0.0034 J	<0.0098	0.070 J	0.013 J	0.45	9.0 J	1.6 J	0.0034 J	0.0029 J
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.11 J	2.2	0.96	<0.47	<0.77	0.046 J [<0.38]	<0.38	NA	NA	0.052 J	0.16 J	0.028 J	0.042 J	<0.38	<0.38
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.088 J	0.11 J	0.057 J	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.032 J	<0.51	<0.76	<0.38	<0.38
Acenaphthylene	100	1,000	0.061 J	0.77 J	0.16 J	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.079 J	<0.51	<0.76	<0.38	<0.38
Anthracene	100	1,000	0.44	0.075 J	0.39 J	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.051 J	<0.51	<0.76	<0.38	<0.38
Benzo(a)anthracene	1	11	**1.8**	0.14 J	**2.4**	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.12 J	<0.51	<0.76	<0.38	<0.38
Benzo(a)pyrene	0	1.1	**0.94**	**0.058 J**	**2.3**	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	**0.10 J**	<0.51	<0.76	<0.38	<0.38
Benzo(b)fluoranthene	1	11	**1.5**	0.099 J	**1.7**	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.092 J	<0.51	<0.76	<0.38	<0.38
Benzo(g,h,i)perylene	100	1,000	NA	NA	0.94	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.046 J	<0.51	<0.76	<0.38	<0.38
Benzo(k)fluoranthene	0.8	110	**1.8**	0.12 J	**2.2**	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.080 J	<0.51	<0.76	<0.38	<0.38
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**1.7**	0.12 J	**2.2**	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.12 J	<0.51	<0.76	<0.38	<0.38
Dibenzo(a,h)anthracene	0.33	1.1	**0.93**	0.058 J	**0.36 J**	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	<0.44	<0.51	<0.76	<0.38	<0.38
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	2.9	0.21 J	2.5	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	0.050 J	0.21 J	<0.51	<0.76	<0.38	<0.38
Fluorene	30	1,000	0.15 J	0.34 J	0.075 J	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	0.034 J	0.094 J	<0.51	<0.76	<0.38	<0.38
Indeno(1,2,3-cd)pyrene	0.5	11	0.36 J	<0.89	**1.1**	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	<0.46	0.046 J	<0.51	<0.76	<0.38	<0.38
Naphthalene	12	1,000	0.28 J	6.0	2.3	<0.47	5.5	2.4 [0.23 J]	0.054 J	NA	NA	0.17 J	0.73	3.7	4.8	0.026 J	0.066 J
Phenanthrene	100	1,000	1.5	0.23 J	1.3	<0.47	<0.77	0.031 J [<0.38]	<0.38	NA	NA	0.093 J	0.26 J	<0.51	<0.76	<0.38	<0.38
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	2.7	0.21 J	2.4	<0.47	<0.77	<0.38 [<0.38]	<0.38	NA	NA	0.047 J	0.18 J	<0.51	<0.76	<0.38	<0.38
Total PAHs	- -	- -	17 J	11 J	23 J	<0.47	5.5	2.5 J [0.23 J]	0.054 J	NA	NA	0.45 J	2.4 J	3.7 J	4.8 J	0.026 J	0.066 J
Total SVOCs	0	- -	**17 J**	**11 J**	**23 J**	<0.47	**5.5**	**2.5 J [0.23 J]**	**0.054 J**	NA	NA	**0.45 J**	**2.4 J**	**3.7 J**	**4.8 J**	**0.026 J**	**0.066 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-45							SB-46								
Sample Depth(Feet): Date Collected: X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/27/00	6 - 8 03/27/00	10 - 12 03/27/00	14 - 16 03/27/00	28 - 30 03/27/00	38 - 40 03/27/00	48 - 50 03/27/00	2 - 4 03/27/00	6 - 8 03/27/00	10 - 12 03/27/00	14 - 16 03/27/00	20 - 22 03/27/00	28 - 30 03/27/00	38 - 40 03/27/00	48 - 50 03/27/00
Inorganics																		
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	<0.570	3.80	<0.740	4.30	<0.560	<0.560 [<0.540]	<0.570	2.20 JN	**82.7 N**	1.50 N	1.10	<0.740	<0.570	<0.540	<0.550
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																		
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																		
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-47							SB-48						
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/22/00	6 - 8 03/22/00	10 - 12 03/22/00	14 - 16 03/22/00	28 - 30 03/22/00	38 - 40 03/22/00	48 - 50 03/22/00	2 - 4 03/23/00	10 - 12 03/23/00	14 - 16 03/23/00	20 - 22 03/23/00	28 - 30 03/23/00	38 - 40 03/23/00	48 - 50 03/23/00
Volatile Organics																
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0053	<0.0056	<0.0068	<0.76	<0.63 [<0.60]	0.012	<0.0062	0.0013 J	0.0016 J	<0.034	0.022 J	0.0098 J	0.011	<0.0060
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0053	<0.0056	<0.0068	<0.76	0.15 [0.12]	<0.0058	<0.0062	<0.0065	0.011	<0.034	**1.2**	0.039	0.013	<0.0060
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0012 J	<0.0056	0.0022 J	<0.76	0.16 [0.19]	0.0011 J	<0.0062	0.028	0.0017 J	0.044	**1.4**	0.089	0.0055 J	0.017
Xylenes (total)	0.26	1,000	<0.0053	<0.0056	<0.0068	**0.48 J**	**2.5 [1.8]**	<0.0058	<0.0062	0.0035 J	0.044	0.049	**19 E**	**0.55**	0.092	0.0027 J
Total BTEX	- -	- -	0.0012 J	<0.0056	0.0022 J	0.48 J	2.8 [2.1]	0.013 J	<0.0062	0.033 J	0.058 J	0.093	22 J	0.69 J	0.12 J	0.020 J
Total VOCs	- -	- -	0.0012 J	<0.0056	0.0022 J	0.48 J	2.8 [2.1]	0.013 J	<0.0062	0.033 J	0.058 J	0.093	22 J	0.69 J	0.12 J	0.020 J
Semivolatile Organics																
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.020 J	<0.37	0.028 J	0.90	0.076 J [<1.4]	0.097 J	<0.39	0.16 J	31 J	8.2	2.0 J	NA	NA	NA
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.044 J	<0.37	0.030 J	0.076 J	<1.1 [<1.4]	0.018 J	<0.39	0.024 J	11 J	0.53 J	<6.8	NA	NA	NA
Acenaphthylene	100	1,000	<0.35	<0.37	<0.38	0.38 J	<1.1 [<1.4]	0.027 J	<0.39	0.026 J	23 J	4.7	0.67 J	NA	NA	NA
Anthracene	100	1,000	0.087 J	<0.37	0.11 J	0.13 J	<1.1 [<1.4]	<0.39	<0.39	0.13 J	**110**	1.5 J	<6.8	NA	NA	NA
Benzo(a)anthracene	1	11	0.13 J	0.046 J	0.21 J	0.11 J	<1.1 [<1.4]	<0.39	<0.39	0.68	**100**	0.55 J	<6.8	NA	NA	NA
Benzo(a)pyrene	0	1.1	**0.10 J**	**0.040 J**	**0.16 J**	**0.075 J**	<1.1 [<1.4]	<0.39	<0.39	**0.65**	**84**	**0.44 J**	<6.8	NA	NA	NA
Benzo(b)fluoranthene	1	11	0.082 J	0.046 J	0.13 J	0.072 J	<1.1 [<1.4]	<0.39	<0.39	0.55	**79**	0.37 J	<6.8	NA	NA	NA
Benzo(g,h,i)perylene	100	1,000	0.055 J	<0.37	0.084 J	0.038 J	<1.1 [<1.4]	<0.39	<0.39	0.36 J	40 J	<4.4	<6.8	NA	NA	NA
Benzo(k)fluoranthene	0.8	110	0.11 J	0.041 J	0.17 J	0.069 J	<1.1 [<1.4]	<0.39	<0.39	0.70	**66**	0.40 J	<6.8	NA	NA	NA
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.12 J	0.049 J	0.21 J	0.098 J	<1.1 [<1.4]	<0.39	<0.39	0.61	**80**	0.41 J	<6.8	NA	NA	NA
Dibenzo(a,h)anthracene	0.33	1.1	<0.35	<0.37	0.034 J	<0.45	<1.1 [<1.4]	<0.39	<0.39	0.16 J	**17 J**	<4.4	<6.8	NA	NA	NA
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	0.23 J	0.089 J	0.51	0.23 J	<1.1 [<1.4]	0.027 J	<0.39	0.87	**230**	1.6 J	<6.8	NA	NA	NA
Fluorene	30	1,000	0.048 J	<0.37	0.041 J	0.32 J	<1.1 [<1.4]	0.023 J	<0.39	0.044 J	**96**	3.0 J	<6.8	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.5	11	0.057 J	<0.37	0.091 J	0.041 J	<1.1 [<1.4]	<0.39	<0.39	0.38	**40 J**	<4.4	<6.8	NA	NA	NA
Naphthalene	12	1,000	0.10 J	<0.37	0.15 J	3.4	6.3 [8.5]	2.0	0.077 J	0.14 J	**17 J**	**29**	**36**	NA	NA	NA
Phenanthrene	100	1,000	0.30 J	0.038 J	0.17 J	0.54	<1.1 [<1.4]	0.051 J	<0.39	0.60	**320**	4.9	<6.8	NA	NA	NA
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	0.25 J	0.072 J	0.46	0.19 J	<1.1 [<1.4]	0.031 J	<0.39	0.88	**170**	0.98 J	<6.8	NA	NA	NA
Total PAHs	- -	- -	1.7 J	0.42 J	2.6 J	6.7 J	6.4 J [8.5]	2.3 J	0.077 J	7.0 J	1,500 J	57 J	39 J	NA	NA	NA
Total SVOCs	0	- -	**1.7 J**	**0.42 J**	**2.6 J**	**6.7 J**	**6.4 J [8.5]**	**2.3 J**	**0.077 J**	**7.0 J**	**1,500 J**	**57 J**	**39 J**	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-47							SB-48						
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4	6 - 8	10 - 12	14 - 16	28 - 30	38 - 40	48 - 50	2 - 4	10 - 12	14 - 16	20 - 22	28 - 30	38 - 40	48 - 50
Date Collected:			03/22/00	03/22/00	03/22/00	03/22/00	03/22/00	03/22/00	03/22/00	03/23/00	03/23/00	03/23/00	03/23/00	03/23/00	03/23/00	03/23/00
X = Soil Removed During IRM:																
Inorganics																
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	<0.510	<0.510	12.2	2.70	<0.580 [<0.550]	<0.470	<0.580	3.00	1.80	<0.650	<0.710	<0.570 N	<0.570 N	<0.610 N
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-49							SB-50								
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/20/00	6 - 8 03/20/00	14 - 16 03/20/00	20 - 22 03/20/00	28 - 30 03/20/00	38 - 40 03/21/00	48 - 50 03/21/00	2 - 4 03/28/00	6 - 8 03/28/00	10 - 12 03/28/00	14 - 16 03/28/00	20 - 22 03/28/00	28 - 30 03/28/00	38 - 40 03/28/00	48 - 50 03/28/00
Volatile Organics																		
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.0062	<0.012	<0.017	<0.013	**0.26**	0.024	<0.0065 [<0.0066]	**1.1**	<0.0088	<0.69	<0.033	**0.48 J**	0.045	<0.0058	<0.0058
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0062	<0.012	0.0046 J	0.16	0.28	0.022	<0.0065 [<0.0066]	<0.62	<0.0088	0.14 J	0.0087 J	0.64 J	0.019	<0.0058	<0.0058
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	0.0016 J	<0.012	<0.017	0.0072 J	0.24	0.0071	<0.0065 [<0.0066]	**0.92**	<0.0088	<0.69	<0.033	**1.8**	0.086	<0.0058	0.0011 J
Xylenes (total)	0.26	1,000	<0.0062	<0.012	0.013 J	**0.68**	**1.9**	0.11	<0.0065 [<0.0066]	**1.1**	<0.0088	**1.4**	0.047	**10**	**0.28**	<0.0058	<0.0058
Total BTEX	- -	- -	0.0016 J	<0.012	0.018 J	0.85 J	2.7	0.16	<0.0065 [<0.0066]	3.1	<0.0088	1.5 J	0.056 J	13 J	0.43	<0.0058	0.0011 J
Total VOCs	- -	- -	0.0016 J	<0.012	0.018 J	0.85 J	2.7	0.16	<0.0065 [<0.0066]	3.1	<0.0088	1.5 J	0.056 J	13 J	0.43	<0.0058	0.0011 J
Semivolatile Organics																		
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.074 J	0.093 J	0.83	160	0.066 J	0.51	<0.39 [<0.41]	110	0.15 J	2.0	4.8 E	0.051 J	<0.38	<0.38	0.021 J
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.090 J	<0.71	0.090 J	7.3 J	<0.40	0.034 J	<0.39 [<0.41]	**25 J**	0.049 J	0.39 J	2.1	<0.52	<0.38	<0.38	<0.39
Acenaphthylene	100	1,000	0.020 J	<0.71	0.25 J	76	0.042 J	0.25 J	<0.39 [<0.41]	**140 J**	0.19 J	0.76 J	2.9 J	<0.52	<0.38	<0.38	<0.39
Anthracene	100	1,000	0.22 J	<0.71	0.55	25	0.018 J	0.13 J	<0.39 [<0.41]	**450 E**	0.56	0.90	10 E	<0.52	<0.38	<0.38	0.041 J
Benzo(a)anthracene	1	11	0.56	<0.71	<0.50	**15 J**	<0.40	0.089 J	<0.39 [<0.41]	**480 E**	**1.4**	**1.1**	**7.0 E**	<0.52	<0.38	<0.38	0.047 J
Benzo(a)pyrene	0	1.1	**0.52**	<0.71	<0.50	**11 J**	**0.065 J**	**0.067 J**	<0.39 [<0.41]	**340**	**1.3**	**0.51**	**5.5 E**	<0.52	<0.38	<0.38	**0.039 J**
Benzo(b)fluoranthene	1	11	0.53	<0.71	<0.50	**7.5 J**	0.028 J	0.076 J	<0.39 [<0.41]	**330**	0.96	0.41 J	**5.3 E**	<0.52	<0.38	<0.38	0.028 J
Benzo(g,h,i)perylene	100	1,000	0.34 J	<0.71	<0.50	5.5 J	<0.40	0.033 J	<0.39 [<0.41]	**130**	0.70	0.17 J	2.1	<0.52	<0.38	<0.38	<0.39
Benzo(k)fluoranthene	0.8	110	0.49	<0.71	<0.50	**12 J**	0.061 J	0.060 J	<0.39 [<0.41]	**320**	**1.6**	0.69	**5.5 E**	<0.52	<0.38	<0.38	0.042 J
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	0.59	<0.71	<0.50	**13 J**	<0.40	0.076 J	<0.39 [<0.41]	**400 E**	**1.3**	0.88	**5.9 E**	<0.52	<0.38	<0.38	0.042 J
Dibenzo(a,h)anthracene	0.33	1.1	0.12 J	<0.71	<0.50	**2.1**	<0.40	<0.38	<0.39 [<0.41]	**67**	0.26 J	0.070 J	**0.82**	<0.52	<0.38	<0.38	<0.39
Dibenzofuran	7	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	1.1	<0.71	0.33 J	35	<0.40	0.22 J	<0.39 [<0.41]	**1,100 E**	2.0	1.0	27 E	<0.52	<0.38	<0.38	0.11 J
Fluorene	30	1,000	0.099 J	<0.71	0.92	**43**	0.016 J	0.18 J	<0.39 [<0.41]	**210**	0.24 J	1.3	5.9 E	<0.52	<0.38	<0.38	0.029 J
Indeno(1,2,3-cd)pyrene	0.5	11	0.32 J	<0.71	<0.50	**6.0 J**	0.030 J	0.031 J	<0.39 [<0.41]	**150**	**0.70**	0.18 J	**2.5**	<0.52	<0.38	<0.38	0.018 J
Naphthalene	12	1,000	0.091 J	0.090 J	0.69	**150**	6.1 E	2.5	<0.39 [<0.41]	**260**	0.29 J	3.1	11 E	12 E	0.25 J	0.029 J	0.11 J
Phenanthrene	100	1,000	0.84	<0.71	2.1	84	0.049 J	0.40	<0.39 [<0.41]	**13,000 EJ**	1.6	3.2 J	7.5 EJ	<0.52	0.017 J	0.021 J	0.12 J
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	1.2	<0.71	0.17 J	33	<0.40	0.14 J	<0.39 [<0.41]	**740 E**	1.7	0.62	12 E	<0.52	<0.38	<0.38	0.067 J
Total PAHs	- -	- -	7.2 J	0.18 J	5.9 J	690 J	6.5 J	4.8 J	<0.39 [<0.41]	18,000 J	15 J	17 J	120 J	12 J	0.27 J	0.050 J	0.71 J
Total SVOCs	0	- -	**7.2 J**	**0.18 J**	**5.9 J**	**690 J**	**6.5 J**	**4.8 J**	<0.39 [<0.41]	**18,000 J**	**15 J**	**17 J**	**120 J**	**12 J**	**0.27 J**	**0.050 J**	**0.71 J**

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SB-49							SB-50							
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	2 - 4 03/20/00	6 - 8 03/20/00	14 - 16 03/20/00	20 - 22 03/20/00	28 - 30 03/20/00	38 - 40 03/21/00	48 - 50 03/21/00	2 - 4 03/28/00	6 - 8 03/28/00	10 - 12 03/28/00	14 - 16 03/28/00	20 - 22 03/28/00	28 - 30 03/28/00	38 - 40 03/28/00	48 - 50 03/28/00
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	0.980	**27.6**	1.30	<0.660	<0.510	1.30	<0.530 [<0.620]	6.70	16.6	1.10	1.50	<0.690	<0.580	<0.540	<0.540
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SS-1	SS-3	SS-4	SS-5	SS-6	T1	T2	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)						10 - 15	5 - 10	15	15	15	15	15	15	15	15	15	15	15	20
Date Collected:			07/18/95	07/18/95	07/18/95	03/31/98	03/31/98	07/01/01	07/01/01	02/06/02	01/16/02	01/16/02	01/31/02	02/06/02	12/03/01	12/03/01	01/28/02	11/16/01	11/16/01	11/16/01	01/04/02
X = Soil Removed During IRM:																					
Volatile Organics																					
2-Butanone	0.12	1,000	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	0.041 B	**0.091 B**	**0.063 B**	0.020 B	0.025 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	<0.0070	<0.0060	<0.0070	<0.0070	0.027 J	**0.90 [0.47 J]**	0.0090	<0.0070	<0.0060	<0.0080	<0.0070	**0.17**
Carbon Disulfide	- -	- -	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	<0.0070	<0.0060	<0.0070	<0.0070	0.076 J	0.75 [0.29 J]	<0.0070	<0.0070	<0.0060	<0.0080	<0.0070	0.13
Methylene Chloride	0.05	1,000	0.0050 J	0.0080 J	0.0060 J	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	<0.010	<0.010	<0.010	<0.010	0.00090 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	0.0040 J	<0.0060	<0.0070	<0.0070	0.053 J	**3.7 [12 J]**	0.0050 J	<0.0070	<0.0060	<0.0080	<0.0070	0.53
Xylenes (total)	0.26	1,000	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	0.018 J	<0.0060	<0.0070	<0.0070	0.25 J	**7.6 [3.8 J]**	0.011	<0.0070	<0.0060	<0.0080	0.0060 J	**2.3**
Total BTEX	- -	- -	<0.010	<0.010	<0.010	<0.010	<0.010	NA	NA	0.022 J	<0.0060	<0.0070	<0.0070	0.40 J	13 [16 J]	0.025 J	<0.0070	<0.0060	<0.0080	0.0060 J	3.1
Total VOCs	- -	- -	0.046 J	0.099 J	0.069 J	0.020	0.026 J	NA	NA	0.022 J	<0.0060	<0.0070	<0.0070	0.40 J	13 [16 J]	0.025 J	<0.0070	<0.0060	<0.0080	0.0060 J	3.1
Semivolatile Organics																					
2,4-Dimethylphenol	- -	- -	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	0.021 J	0.071 J	0.030 J	0.080 J	0.052 J	NA	NA	0.23 J	<0.43 J	<0.44	<0.46	2.4	8.0 J [17 J]	<0.50	0.074 J	0.19 J	0.53	1.8	11
2-Methylphenol	0.33	1,000	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	<0.80	<0.80	<0.80	<0.80	<0.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.046 J	0.15 J	0.068 J	0.14 J	0.063 J	NA	NA	0.077 J	0.23 J	<0.44	<0.46	0.18 J	1.5 J [3.3 J]	<0.50	<0.45	0.034 J	0.077 J	0.21 J	1.8 J
Acenaphthylene	100	1,000	0.55 J	0.27 J	0.20 J	0.48 J	0.41 J	NA	NA	0.13 J	1.1	<0.44	<0.46	0.86	6.8 J [13 J]	NA	0.050 J	0.063 J	0.20 J	1.8	13
Anthracene	100	1,000	0.54 J	0.38 J	0.30 J	0.78 J	0.36 J	NA	NA	0.085 J	1.9	<0.44	<0.46	<0.54	9.5 J [20 J]	<0.50	0.083 J	0.28 J	0.74	1.2	9.5
Benzo(a)anthracene	1	11	**2.1**	**1.1**	**1.7**	**3.1**	0.68	NA	NA	0.052 J	**1.2**	<0.44	<0.46	<0.54	**6.3 J [14 J]**	<0.50	0.13 J	0.078 J	0.41 J	<0.47	**3.4 J**
Benzo(a)pyrene	0	1.1	**2.2**	**1.1**	**1.7**	**3.2**	**0.78**	NA	NA	<0.48	**0.97 J**	<0.44	<0.46	<0.54	**4.8 J [9.8 J]**	<0.50	**0.12 J**	**0.077 J**	**0.35 J**	<0.47	**2.4 J**
Benzo(b)fluoranthene	1	11	**3.2**	**1.4**	**2.8**	**4.1**	0.86	NA	NA	<0.48	0.74	<0.44	<0.46	<0.54	**4.4 J [13 J]**	<0.50	0.11 J	0.056 J	0.30 J	<0.47	**1.7 J**
Benzo(g,h,i)perylene	100	1,000	0.18 J	0.10 J	0.18 J	0.064 J	0.024 J	NA	NA	0.023 J	0.39 J	<0.44	<0.46	0.54 J	1.5 J [3.7 J]	<0.50	0.077 J	<0.41	0.18 J	<0.47	0.91 J
Benzo(k)fluoranthene	0.8	110	**1.6**	**1.0**	**1.2**	**2.5**	0.53	NA	NA	<0.48	**0.82**	<0.44	0.46 J	<0.54	**3.8 J [7.0 J]**	<0.50	0.15 J	0.076 J	0.34 J	<0.47	**2.5 J**
bis(2-Ethylhexyl)phthalate	- -	- -	0.070 JB	0.22 JB	0.14 JB	0.24 J	0.25 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	<0.33	0.034 J	<0.33	0.12 J	0.036 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	0.15 J	0.27 J	0.16 J	0.24 J	0.079 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**2.5**	**1.2**	**2.1**	**3.6**	0.94	NA	NA	0.046 J	**1.1**	<0.44	<0.46	<0.54	**5.1 J [10 J]**	<0.50	0.16 J	0.087 J	0.44 J	<0.47	**3.0 J**
Dibenzo(a,h)anthracene	0.33	1.1	0.22 J	0.16 J	0.26 J	0.14 J	0.049 J	NA	NA	<0.48	0.12 J	<0.44	<0.46	<0.54	**<1.8 [1.5 J]**	<0.50	<0.45	<0.41	<0.51	<0.47	<4.6
Dibenzofuran	7	1,000	0.037 J	0.11 J	0.035 J	0.092 J	0.041 J	NA	NA	0.16 J	0.66	<0.44	<0.46	0.45 J	**5.4 J [12 J]**	<0.50	<0.45	0.23 J	0.36	1.3	5.8
Diethylphthalate	- -	- -	<0.33	0.13 JB	0.016 JB	<0.33	<0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	0.051 JB	0.055 JB	0.039 JB	0.070 JB	0.036 JB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	4.6	2.5	3.3	5.5	1.3	NA	NA	0.092 J	2.6	<0.44	<0.46	<0.54	13 J [27 J]	<0.50	0.18 J	0.14 J	1.4	0.10 J	10
Fluorene	30	1,000	0.091 J	0.16 J	0.069 J	0.12 J	0.048 J	NA	NA	0.18 J	1.2	<0.44	<0.46	0.62	7.8 J [17 J]	<0.50	<0.45	0.16 J	0.44 J	1.4	9.5
Indeno(1,2,3-cd)pyrene	0.5	11	0.48 J	0.38 J	**0.60 J**	0.35 J	0.12 J	NA	NA	<0.48	0.45	<0.44	0.46 J	<0.54	**2.1 J [4.8 J]**	<0.50	0.071 J	0.057 J	0.23 J	<0.47	**1.2 J**
Naphthalene	12	1,000	0.028 J	0.17 J	0.043 J	0.12 J	0.059 J	NA	NA	0.52	2.5	<0.44	0.14 J	8.3	**21 J [40 JE]**	0.12 J	0.16 J	0.093 J	0.63	2.1	**31**
Phenanthrene	100	1,000	2.0	1.6	1.1	2.6	0.75	NA	NA	0.16 J	3.4	<0.44	<0.46	<0.54	**150 J [34 J]**	<0.50	0.17 J	0.67 J	1.4	2.4	19
Phenol	0.33	1,000	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	4.1	1.9	3.1	2.9	0.82	NA	NA	0.073 J	2.1	<0.44	0.46 J	<0.54	8.8 J [19 J]	<0.50	0.17 J	0.099 J	0.78	<0.47	6.5
Total PAHs	- -	- -	25 J	14 J	19 J	30 J	7.9 J	NA	NA	1.7 J	21 J	<0.44	1.5 J	13 J	250 J [250 J]	0.12 J	1.7 J	2.2 J	8.5 J	11 J	130 J
Total SVOCs	0	- -	**25 J**	**15 J**	**19 J**	**31 J**	**8.3 J**	NA	NA	1.8 J	22 J	<0.44	1.5 J	13 J	260 J [270 J]	0.12 J	1.7 J	2.4 J	8.8 J	12 J	130 J

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SS-1	SS-3	SS-4	SS-5	SS-6	T1	T2	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)						10 - 15	5 - 10	15	15	15	15	15	15	15	15	15	15	15	20
Date Collected:			07/18/95	07/18/95	07/18/95	03/31/98	03/31/98	07/01/01	07/01/01	02/06/02	01/16/02	01/16/02	01/31/02	02/06/02	12/03/01	12/03/01	01/28/02	11/16/01	11/16/01	11/16/01	01/04/02
X = Soil Removed During IRM:																					
Inorganics																					
Aluminum	- -	- -	6,660	9,330	2,330	9,780	2,170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	9.80 BN	<8.00	<6.60	<0.980	<1.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	4.40	**51.0**	7.50	7.10	3.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	79.7	64.0	32.6 B	81.1	35.6 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	<0.200	<0.240	<0.200	0.540 B	<0.260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	<0.600	<0.720	0.830 B	0.540 B	0.300 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	71,100 E	12,200 E	244,000 E	23,200 E	50,800 E	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	11.2	11.9	6.40	23.5	9.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	5.30 B	4.20 B	7.10 B	8.90 B	2.60 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	19.3	15.2	17.1	34.8	27.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	<0.550	2.70	<1.00	5.01	<0.660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	- -	- -	13,000 E	12,900 E	10,300 E	21,100	6,640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	23.7 E	44.7 E	51.6 E	**82.0**	**69.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	16,100 E	3,540 E	11,400 E	10,800	7,630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	360 EN	385 EN	346 EN	368	135	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	**0.190 N**	**2.00 N**	**1.40 N**	**0.220**	**0.190**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	18.0	12.5	19.4	27.0	8.70 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	1,130 E	490 E	702 E	1,720 E	522 BE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	<0.400	0.410 BN	0.220 BN	2.40	0.940 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	<0.400	<0.480	<0.400	0.300 B	<0.260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	146 B	102 B	272	227 B	391 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	<0.800	<0.960	<0.810	<0.730	<0.800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	12.6 E	17.3 E	7.20 BE	18.9	6.70 B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	72.9	60.9	55.8	**114 E**	76.7 E	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																					
Aroclor-1242	- -	- -	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	<0.033	<0.033	0.33	<0.033	<0.033	<0.033	<0.033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	<0.067	<0.067	0.33	<0.067	<0.067	<0.067	<0.067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																					
4,4'-DDD	0.0033	180	<0.0033	<0.0033	<0.0033	<0.0033	**0.0062 P**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	<0.0033	<0.0033	<0.0033	<0.0033	**0.013 P**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	<0.0033	**0.023 P**	<0.0033	**0.064 B**	**0.028 B**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	0.0011 JP	<0.0017	<0.0017	<0.0017	<0.0017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	<0.0017	<0.0017	0.012 P	0.00053 JP	<0.0017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	<0.0033	<0.0033	0.0039 J	<0.0033	<0.0033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	<0.0033	<0.0033	<0.0033	<0.0033	0.0023 JP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	<0.0033	<0.0033	<0.0033	<0.0033	0.0067 P	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	<0.0033	<0.0033	<0.0033	<0.0033	0.0079 P	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	0.0026 J	0.046 P	0.0020 JP	0.0013 JP	0.00051 JP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	<0.017	<0.017	<0.017	<0.017	<0.017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SE-B-1	SE-B-2	SE-EW-1	SE-SW-1	V-1	V-2	V-3	V-4	V-5	V-6	V-7	V-8	V-9	V-10	V-11	V-12	V-13	V-14	V-14-2	V-15
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)					7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	17.5	17.5	17.5
Date Collected:			10/02/01	10/02/01	10/02/01	10/02/01	11/23/01	12/27/01	11/13/01	11/13/01	10/30/01	10/30/01	10/25/01	10/20/01	10/22/01	10/23/01	10/23/01	10/24/01	11/26/01	01/04/02	01/04/02	01/04/02
X = Soil Removed During IRM:																						
Volatile Organics																						
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.06	89	0.0010 J	0.0088	0.0041	0.0010 J	<0.010	<0.010	<0.0090	<0.0090	<0.010	<0.010	<0.012	<0.011	<0.014	0.0060 J	<0.010	<0.012	<0.012	**1.1**	**1.8**	**0.076**
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1	780	<0.0058	0.027	<0.0042	<0.0044	<0.010	<0.010	<0.0090	<0.0090	<0.010	<0.010	<0.012	<0.011	<0.014	<0.012	<0.010	<0.012	<0.012	**9.3**	**2.5**	0.16
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	1,000	<0.0073	0.051	0.0062	0.0020 J	<0.010	<0.010	<0.0090	<0.0090	0.0020 J	<0.010	0.0030 J	<0.011	<0.014	0.0090 J	0.0030 J	<0.012	<0.012	**12**	**7.7**	0.44
Xylenes (total)	0.26	1,000	<0.0073	**0.29**	0.00090 J	0.00070 J	<0.010	<0.010	<0.0090	<0.0090	<0.010	<0.010	<0.012	<0.011	<0.014	0.011 J	<0.010	<0.012	<0.012	**50**	**33**	**2.6**
Total BTEX	- -	- -	0.0010 J	0.38	0.011 J	0.0037 J	<0.010	<0.010	<0.0090	<0.0090	0.0020 J	<0.010	0.0030 J	<0.011	<0.014	0.026 J	0.0030 J	<0.012	<0.012	72	45	3.3
Total VOCs	- -	- -	0.0010 J	0.38	0.011 J	0.0037 J	<0.010	<0.010	<0.0090	<0.0090	0.0020 J	<0.010	0.0030 J	<0.011	<0.014	0.026 J	0.0030 J	<0.012	<0.012	72	45	3.3
Semivolatile Organics																						
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	- -	NA	NA	NA	NA	<0.64	<0.67 J	<0.61	<0.62	<0.68	<0.65	<0.78	<0.76	<0.95	0.82	<0.65	<0.78	<0.81	150	66	150
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	20	1,000	0.029 J	12 J	0.14 J	0.023 J	0.30 J	<0.67	0.080 J	<0.62	<0.68	<0.65	<0.78	0.12 J	<0.95	<0.81	<0.65	<0.78	<0.81	**28 J**	11 J	20 J
Acenaphthylene	100	1,000	0.37 J	70	1.1	0.21 J	<0.64	<0.67	<0.61	0.10 J	<0.68	<0.65	<0.78	<0.76	<0.95	0.16 J	<0.65	<0.78	<0.81	100	75	**170**
Anthracene	100	1,000	0.46 J	90	1.5	0.21 J	0.44 J	<0.67	1.3	0.17 J	0.18 J	<0.65	0.11 J	0.45 J	<0.95	0.17 J	<0.65	<0.78	<0.81	68	57	**110**
Benzo(a)anthracene	1	11	**1.8**	**150**	**8.1**	0.52	**1.1**	<0.67	0.62	0.69	0.39 J	<0.65	0.12 J	**2.3 J**	<0.95	0.11 J	0.25 J	<0.78	<0.81	**40 J**	**30**	**42 J**
Benzo(a)pyrene	0	1.1	**1.5**	**120**	**7.4**	**0.46**	**0.82**	<0.67	**0.40 J**	**0.61**	**0.29 J**	<0.65	<0.78	**2.1 J**	<0.95	<0.81	**0.40 J**	<0.78	<0.81	**31 J**	**19**	**31 J**
Benzo(b)fluoranthene	1	11	**1.8**	**150**	**10**	0.63	**1.1**	<0.67	0.28 J	0.50 J	0.27 J	<0.65	<0.78	**2.0 J**	<0.95	<0.81	0.35 J	<0.78	<0.81	**17 J**	**15**	**21 J**
Benzo(g,h,i)perylene	100	1,000	0.90	41	2.6	0.24 J	0.45 J	<0.67	0.18 J	0.22 J	0.14 J	<0.65	<0.78	0.76 J	<0.95	<0.81	0.33 J	<0.18 J	<0.81	<40	5.0 J	9.9 J
Benzo(k)fluoranthene	0.8	110	**0.86**	**66**	**4.5**	0.27	**0.89**	<0.67	0.38 J	0.69	0.25 J	<0.65	0.10 J	**1.8 J**	<0.95	<0.81	0.41 J	<0.78	<0.81	**28 J**	**21**	**34 J**
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1	110	**1.7**	**120**	**7.5**	0.46	**1.2**	0.069 J	0.60 J	0.65	0.37 J	0.075 J	0.12 J	**2.1 J**	<0.95	0.11 J	0.27 J	<0.78	<0.81	**35 J**	**23**	**38 J**
Dibenzo(a,h)anthracene	0.33	1.1	0.24	**14**	**0.91**	0.067	0.11 J	<0.67	<0.61	<0.62	<0.68	<0.65	<0.78	0.15 J	<0.95	<0.81	0.078 J	<0.78	<0.81	<40	<13	<42
Dibenzofuran	7	1,000	NA	NA	NA	NA	0.086 J	<0.67	<0.61	<0.62	<0.68	<0.65	<0.78	<0.76	<0.95	0.33 J	<0.65	<0.78	<0.81	**38 J**	**33**	**71**
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	3.3	**370**	13	0.84	0.44 J	0.10 J	1.9	1.2	0.76	0.088 J	0.26 J	4.0 J	<0.95	0.21 J	0.34 J	<0.78	<0.81	100	67	**130**
Fluorene	30	1,000	0.13 J	**54**	0.30 J	0.10 J	0.21 J	<0.67	0.40 J	0.067 J	<0.68	<0.65	<0.78	0.11 J	<0.95	<0.81	<0.65	<0.78	<0.81	**83**	**57**	**110**
Indeno(1,2,3-cd)pyrene	0.5	11	**0.92**	**50**	**3.2**	0.26	**0.52 J**	<0.67	0.15 J	0.31 J	0.18 J	<0.65	<0.78	**1.1 J**	<0.95	<0.81	0.24 J	<0.78	<0.81	**11 J**	**6.4 J**	**14 J**
Naphthalene	12	1,000	0.086 J	**74**	0.27 J	0.11 J	0.16 J	<0.67	<0.61	0.096 J	<0.68	<0.65	<0.78	0.083 J	<0.94	1.4	0.070 J	<0.76	0.81	**470**	**260 E**	**600**
Phenanthrene	100	1,000	1.3	**250**	4.8	0.56	0.43 J	<0.67	2.7	0.56 J	0.33 J	<0.65	0.24 J	1.3	<0.95	0.45 J	<0.65	<0.78	<0.81	**200**	100	**210**
Phenol	0.33	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100	1,000	3.0	**250**	9.9	0.79	1.8	0.14 J	2.2	1.4	0.52 J	0.068 J	0.22 J	3.3 J	0.22 J	0.14 J	0.36 J	0.15 J	0.11 J	87	46	74
Total PAHs	- -	- -	18 J	1,900 J	75 J	5.8 J	10 J	0.31 J	11 J	7.3 J	3.7 J	0.23 J	1.2 J	22 J	0.22 J	3.6 J	3.1 J	0.15 J	0.92 J	1,500 J	860 J	1,800 J
Total SVOCs	0	- -	18 J	1,900 J	75 J	5.8 J	10 J	0.31 J	11 J	7.3 J	3.7 J	0.23 J	1.2 J	22 J	0.22 J	3.9 J	3.1 J	0.15 J	0.92 J	1,500 J	890 J	1,800 J

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		SE-B-1	SE-B-2	SE-EW-1	SE-SW-1	V-1	V-2	V-3	V-4	V-5	V-6	V-7	V-8	V-9	V-10	V-11	V-12	V-13	V-14	V-14-2	V-15
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)					7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	17.5	17.5	17.5
Date Collected:			10/02/01	10/02/01	10/02/01	10/02/01	11/23/01	12/27/01	11/13/01	11/13/01	10/30/01	10/30/01	10/25/01	10/20/01	10/22/01	10/23/01	10/23/01	10/24/01	11/26/01	01/04/02	01/04/02	01/04/02
X = Soil Removed During IRM:																						
Inorganics																						
Aluminum	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	350	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	50	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	27	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	63	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	6,800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																						
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides																						
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		V-16	V-17	MW-1D	MW-2D	MW-3D		MW-4D		MW-5D			MW-6S	MW-7D		
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	17.5	17.5	18 - 20	22 - 24	12 - 14	18 - 20	21 - 23	27 - 29	14 - 16	18 - 20	26 - 28	10 - 12	8 - 10	20 - 22	26 - 28
Date Collected:			01/04/02	01/04/02	02/25/98	02/24/98	02/20/98	02/20/98	02/23/98	02/23/98	02/18/98	02/18/98	02/18/98	07/20/95	07/18/95	07/18/95	07/18/95
X = Soil Removed During IRM:																	
Volatile Organics																	
2-Butanone	0.12	1,000	NA	NA	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	NA	<0.010 [<0.010]	NA	<1.2	NA
Acetone	0.05	1,000	NA	NA	NA	NA	NA	**0.14 B**	0.016 J	NA	NA	0.032 B	NA	0.012 JB [0.028 B]	NA	<1.2	NA
Benzene	0.06	89	0.0040 J	<0.0050	<0.010	<0.010 [<0.010]	<0.010	0.015 J	**0.18**	0.0090 J	<0.010	0.020	<0.010	<0.010 [<0.010]	<1.2	<1.2	<1.2
Carbon Disulfide	- -	- -	NA	NA	NA	NA	NA	<0.010	<0.010	NA	NA	0.0040 J	NA	<0.010 [<0.010]	NA	<1.2	NA
Chlorobenzene	1.1	1,000	NA	NA	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	NA	<0.010 [<0.010]	NA	<1.2	NA
Chloroform	0.37	700	NA	NA	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	NA	0.0030 J [0.0020 J]	NA	<1.2	NA
Ethylbenzene	1	780	0.0040 J	<0.0050	<0.010	<0.010 [<0.010]	0.058	0.0090 J	0.010 J	<0.010	0.011 J	0.069	<0.010	<0.010 [<0.010]	<1.2	**1.4 J**	<1.2
Methylene Chloride	0.05	1,000	NA	NA	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	NA	<0.010 [0.0020 JB]	NA	<1.2	NA
Styrene	- -	- -	NA	NA	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	NA	<0.010 [<0.010]	NA	<1.2	NA
Tetrachloroethene	1.3	300	NA	NA	NA	NA	NA	<0.010	<0.010	NA	NA	<0.010	NA	<0.010 [<0.010]	NA	<1.2	NA
Toluene	0.7	1,000	0.012	<0.0050	<0.010	<0.010 [<0.010]	0.012 J	0.026	0.023	<0.010	0.0020 J	0.051	<0.010	0.00060 J [0.0040 J]	<1.2	**1.1 J**	0.52 J
Xylenes (total)	0.26	1,000	0.058	<0.0050	<0.010	<0.010 [<0.010]	**0.64**	0.13	0.092	<0.010	0.012 J	**0.48**	<0.010	<0.010 [<0.010]	**4.4**	**32**	**2.6**
Total BTEX	- -	- -	0.078 J	<0.0050	<0.010	<0.010 [<0.010]	0.71 J	0.18 J	0.31 J	0.0090 J	0.025 J	0.62	<0.010	0.00060 J [0.0040 J]	4.4	35 J	3.1 J
Total VOCs	- -	- -	0.078 J	<0.0050	<0.010	<0.010 [<0.010]	0.71 J	0.32 J	0.32 J	0.0090 J	0.025 J	0.66 J	<0.010	0.016 J [0.036 J]	4.4	35 J	3.1 J
Semivolatile Organics																	
2,4-Dimethylphenol	- -	- -	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	<0.33 [<0.33]	NA	<0.33	NA
2-Chloronaphthalene	- -	- -	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	<0.33 [<0.33]	NA	<0.33	NA
2-Methylnaphthalene	- -	- -	5.7	0.19 J	0.058 J	<0.33 [<0.33]	0.11 J	<0.33	0.047 J	<0.33	0.11 J	<0.33	<0.33	0.033 J [0.026 J]	<0.33	18 J	<0.33
2-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	<0.33 [<0.33]	NA	<0.33	NA
3,3'-Dichlorobenzidine	- -	- -	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	<0.33 [<0.33]	NA	<0.33	NA
4-Methylphenol	0.33	1,000	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	<0.33 [<0.33]	NA	<0.33	NA
4-Nitroaniline	- -	- -	NA	NA	NA	NA	NA	<0.80	<0.80	NA	NA	<0.80	NA	<0.80 [<0.80]	NA	<0.80	NA
Acenaphthene	20	1,000	1.2	0.096 J	0.22 J	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.019 J [0.029 J]	<0.33	1.0 J	<0.33
Acenaphthylene	100	1,000	7.5	0.54 J	0.046 J	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.046 J	<0.33	<0.33	0.061 J [0.089 J]	<0.33	8.9 J	<0.33
Anthracene	100	1,000	7.1	0.75 J	1.8	<0.33 [0.015 J]	0.017 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.10 J [0.31 J]	<0.33	4.0 J	<0.33
Benzo(a)anthracene	1	11	**3.5**	**1.3 J**	**2.0**	<0.33 [0.020 J]	0.067 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.41 J [1.0]	<0.33	**1.8 J**	<0.33
Benzo(a)pyrene	0	1.1	**2.7**	**1.1 J**	**1.4**	<0.33 [<0.33]	**0.064 J**	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	**0.42 J [0.73]**	<0.33	**1.3 J**	<0.33
Benzo(b)fluoranthene	1	11	**2.0**	0.10 J	1.0 J	<0.33 [<0.33]	0.052 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.35 J [0.63]	<0.33	1.0 J	<0.33
Benzo(g,h,i)perylene	100	1,000	0.87 J	0.43 J	0.70 J	<0.33 [<0.33]	0.029 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.087 J [0.079 J]	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	0.8	110	**2.6**	**0.98 J**	**1.2**	<0.33 [<0.33]	0.071 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.34 J [0.64]	<0.33	**1.2 J**	<0.33
bis(2-Ethylhexyl)phthalate	- -	- -	NA	NA	NA	NA	NA	0.21 JB	0.074 J	NA	NA	0.076 JB	NA	0.081 JB [0.12 JB]	NA	<0.33	NA
Butylbenzylphthalate	- -	- -	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	<0.33 [<0.33]	NA	<0.33	NA
Carbazole	- -	- -	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	0.025 J [0.033 J]	NA	4.5 J	NA
Chrysene	1	110	**3.0**	**1.2 J**	**1.9**	<0.33 [0.021 J]	0.074 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.43 J [0.97]	<0.33	**1.6 J**	<0.33
Dibenzo(a,h)anthracene	0.33	1.1	0.27 J	0.11 J	U	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.098 J [0.13 J]	<0.33	<0.33	<0.33
Dibenzofuran	7	1,000	4.0	0.19 J	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	0.013 J [0.019 J]	NA	5.8 J	NA
Diethylphthalate	- -	- -	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	0.014 J [0.010 J]	NA	8.0 JB	NA
Di-n-Butylphthalate	- -	- -	NA	NA	NA	NA	NA	<0.33	<0.33	NA	NA	<0.33	NA	0.043 JB [0.037 JB]	NA	<0.33	NA
Fluoranthene	100	1,000	8.7	2.7 J	3.5	<0.33 [0.042 J]	0.11 J	0.020 J	0.020 J	<0.33	0.030 J	<0.33	<0.33	0.71 [1.8]	<0.33	5.9 J	<0.33
Fluorene	30	1,000	6.8	0.46 J	0.37 J	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	0.023 J	<0.33	<0.33	0.022 J [0.049 J]	<0.33	5.8 J	<0.33
Indeno(1,2,3-cd)pyrene	0.5	11	**1.1 J**	**0.53 J**	**0.84 J**	<0.33 [<0.33]	0.036 J	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.25 J [0.30 J]	<0.33	**0.78 J**	<0.33
Naphthalene	12	1,000	**15**	0.65 J	0.10 J	<0.33 [<0.33]	2.6	0.085 J	1.7	<0.33	0.22 JB	0.58 B	0.019 JB	0.087 J [0.069 J]	<0.33	**120**	<0.33
Phenanthrene	100	1,000	13	1.4 J	3.4	<0.33 [0.041 J]	0.067 J	<0.33	0.020 J	<0.33	0.027 J	<0.33	<0.33	0.27 J [0.85]	<0.33	12 J	<0.33
Phenol	0.33	1,000	NA	NA	NA	NA	NA	0.13 J	<0.33	NA	NA	<0.33	NA	<0.33 [<0.33]	NA	<0.33	NA
Pyrene	100	1,000	5.5	2.1 J	3.4	<0.33 [0.033 J]	0.094 J	0.020 J	0.019 J	<0.33	0.027 J	<0.33	<0.33	0.67 [1.5]	<0.33	3.8 J	<0.33
Total PAHs	- -	- -	87 J	15 J	22 J	<0.33 [0.17 J]	3.4 J	0.13 J	1.8 J	<0.33	0.48 J	0.58	0.019 J	4.4 J [9.2 J]	<0.33	190 J	<0.33
Total SVOCs	0	- -	91 J	15 J	**22 J**	**<0.33 [0.17 J]**	**3.4 J**	**0.47 J**	**1.9 J**	<0.33	**0.48 J**	**0.66 J**	**0.019 J**	**4.5 J [9.4 J]**	<0.33	**210 J**	<0.33

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		V-16	V-17	MW-1D	MW-2D	MW-3D		MW-4D		MW-5D			MW-6S	MW-7D		
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	17.5	17.5	18 - 20	22 - 24	12 - 14	18 - 20	21 - 23	27 - 29	14 - 16	18 - 20	26 - 28	10 - 12	8 - 10	20 - 22	26 - 28
Date Collected:			01/04/02	01/04/02	02/25/98	02/24/98	02/20/98	02/20/98	02/23/98	02/23/98	02/18/98	02/18/98	02/18/98	07/20/95	07/18/95	07/18/95	07/18/95
X = Soil Removed During IRM:																	
Inorganics																	
Aluminum	- -	- -	NA	NA	NA	NA	NA	1,290	3,200	NA	NA	1,550	NA	4,310 [3,740]	NA	2,180	NA
Antimony	- -	- -	NA	NA	NA	NA	NA	1.10 B	1.50 B	NA	NA	1.60 B	NA	<9.20 [<8.40]	NA	<10.0	NA
Arsenic	13	16	NA	NA	NA	NA	NA	<0.640	<0.740	NA	NA	0.810 B	NA	5.60 [5.60]	NA	1.50 B	NA
Barium	350	10,000	NA	NA	NA	NA	NA	76.7	67.1 B	NA	NA	67.2	NA	61.8 [49.6 B]	NA	75.3	NA
Beryllium	7.2	2,700	NA	NA	NA	NA	NA	<0.320	<0.370	NA	NA	<0.300	NA	<0.280 [<0.260]	NA	<0.300	NA
Cadmium	2.5	60	NA	NA	NA	NA	NA	<0.320	<0.370	NA	NA	<0.300	NA	<0.830 [<0.770]	NA	<0.910	NA
Calcium	- -	- -	NA	NA	NA	NA	NA	177,000 E	140,000 E	NA	NA	152,000 E	NA	142,000 E [140,000 E]	NA	205,000 E	NA
Chromium	- -	- -	NA	NA	NA	NA	NA	2.40 B	5.70	NA	NA	3.10	NA	7.40 [6.40]	NA	3.80	NA
Cobalt	- -	- -	NA	NA	NA	NA	NA	1.50 B	3.50 B	NA	NA	1.70 B	NA	2.60 B [2.10 B]	NA	2.00 B	NA
Copper	50	10,000	NA	NA	NA	NA	NA	5.00 B	13.1	NA	NA	4.20 B	NA	18.6 [23.8]	NA	2.60 B	NA
Cyanide	27	10,000	NA	NA	<0.780	<0.880 [<0.860]	4.08	<0.800	<0.930	<0.780	<0.680	<0.740	<0.790	<1.40 [<1.40]	22.1	<1.50	1.40
Iron	- -	- -	NA	NA	NA	NA	NA	4,730 E	9,330 E	NA	NA	4,950 E	NA	8,240 E [7,540 E]	NA	6,180 E	NA
Lead	63	3,900	NA	NA	NA	NA	NA	3.10	6.60	NA	NA	3.90	NA	**32.2 E [90.0 N]**	NA	3.70 E	NA
Magnesium	- -	- -	NA	NA	NA	NA	NA	4,780 E	7,460 E	NA	NA	5,350 E	NA	7,520 E [7,540 E]	NA	5,930 E	NA
Manganese	1,600	10,000	NA	NA	NA	NA	NA	207	247	NA	NA	217	NA	403 EN [335 EN]	NA	328 EN	NA
Mercury	0.18	5.7	NA	NA	NA	NA	NA	<0.150	<0.180	NA	NA	<0.150	NA	**0.250 N [0.240 N]**	NA	<0.140	NA
Nickel	30	10,000	NA	NA	NA	NA	NA	5.00 B	11.2 B	NA	NA	5.70 B	NA	8.70 B [9.20 B]	NA	6.00 B	NA
Potassium	- -	- -	NA	NA	NA	NA	NA	446 BE	684 BE	NA	NA	430 BE	NA	624 E [435 N]	NA	345 E	NA
Selenium	3.9	6,800	NA	NA	NA	NA	NA	0.740 BN	1.30 BN	NA	NA	<0.590	NA	<0.550 [0.410 BNW]	NA	0.480 BN	NA
Silver	2	6,800	NA	NA	NA	NA	NA	<0.320	<0.370	NA	NA	<0.300	NA	<0.550 [<0.510]	NA	<0.610	NA
Sodium	- -	- -	NA	NA	NA	NA	NA	2,170 E	10,100 E	NA	NA	1,710 E	NA	908 [932]	NA	683	NA
Thallium	- -	- -	NA	NA	NA	NA	NA	<0.640	<0.740	NA	NA	<0.590	NA	<1.10 [<1.00]	NA	<1.20	NA
Vanadium	- -	- -	NA	NA	NA	NA	NA	2.10 B	6.00 B	NA	NA	3.60 B	NA	8.90 BE [9.00 BE]	NA	5.70 BE	NA
Zinc	109	10,000	NA	NA	NA	NA	NA	30.7	35.1	NA	NA	25.6	NA	44.4 [42.4]	NA	16.0	NA
PCBs																	
Aroclor-1242	- -	- -	NA	NA	NA	NA	NA	<0.033	<0.033	NA	NA	<0.033	NA	<0.033	NA	<0.033	NA
Aroclor-1248	- -	- -	NA	NA	NA	NA	NA	<0.033	<0.033	NA	NA	<0.033	NA	<0.033	NA	<0.033	NA
Aroclor-1254	- -	- -	NA	NA	NA	NA	NA	<0.033	<0.033	NA	NA	<0.033	NA	<0.033	NA	<0.033	NA
Aroclor-1260	- -	- -	NA	NA	NA	NA	NA	<0.033	<0.033	NA	NA	<0.033	NA	<0.033	NA	<0.033	NA
Total PCBs	- -	- -	NA	NA	NA	NA	NA	<0.067	<0.067	NA	NA	<0.067	NA	<0.067	NA	<0.067	NA
Pesticides																	
4,4'-DDD	0.0033	180	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA
4,4'-DDE	0.0033	120	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA
4,4'-DDT	0.0033	94	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA
Aldrin	0.005	1.4	NA	NA	NA	NA	NA	<0.0017	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA
Alpha-Chlordane	0.094	47	NA	NA	NA	NA	NA	<0.0017	<0.0017	NA	NA	<0.0017	NA	0.011	NA	<0.0017	NA
Delta-BHC	0.04	1,000	NA	NA	NA	NA	NA	<0.0017	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA
Dieldrin	0.005	2.8	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA
Endosulfan II	2.4	920	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	0.0050 JP	NA
Endosulfan Sulfate	2.4	920	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA
Endrin	0.014	410	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA
Endrin Ketone	- -	- -	NA	NA	NA	NA	NA	<0.0033	<0.0033	NA	NA	<0.0033	NA	<0.0033	NA	<0.0033	NA
Gamma-Chlordane	- -	- -	NA	NA	NA	NA	NA	<0.0017	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA
Heptachlor	0.042	29	NA	NA	NA	NA	NA	<0.0017	<0.0017	NA	NA	<0.0017	NA	<0.0017	NA	<0.0017	NA
Methoxychlor	- -	- -	NA	NA	NA	NA	NA	0.0062 JP	<0.017	NA	NA	<0.017	NA	<0.017	NA	<0.017	NA

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		MW-8D		MW-18D	MW-19S	MW-19D	MW-20D	MW-21S	MW-21D	MW-22S	MW-22D
Sample Depth(Feet): / Date Collected: / X = Soil Removed During IRM:	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	20 - 22 02/17/98	22 - 24 02/17/98	10 - 14 12/20/02	5 - 6 01/07/03	16 - 17 01/07/03	26 - 30 12/27/02	0 - 8 12/30/02	22 - 26 12/30/02	6 - 7 01/06/03	22 - 23 01/06/03
Volatile Organics												
2-Butanone	0.12	1,000	<1.2 [<1.2]	NA	0.015 J	<0.018 J	<0.016	<0.015 [0.027]	<0.0080	<0.0070	<0.022 J	0.036 J
Acetone	0.05	1,000	<1.2 [<1.2]	NA	**0.061**	0.046 J	0.013 J	**0.047 [0.057]**	0.034	<0.0070	0.022 J	**0.13 J**
Benzene	0.06	89	<1.2 [<1.2]	<1.2 [<1.2]	0.0040 J	<0.0090	**1.3 J**	**0.17 J [0.28 J]**	<0.0080	<0.0070	<0.011 J	0.0010 J
Carbon Disulfide	- -	- -	<1.2 [<1.2]	NA	0.0030 J	0.0060 J	0.014	0.0060 J [0.0060 J]	0.0050 J	<0.0070	<0.011 J	0.014
Chlorobenzene	1.1	1,000	<1.2 [<1.2]	NA	0.0030 J	<0.0090	0.013	0.012 [0.014]	<0.0080	0.0010	<0.011 J	<0.0080
Chloroform	0.37	700	<1.2 [<1.2]	NA	<0.0080	<0.0090	<0.0080	<0.0080 [<0.0090]	<0.0080	<0.0070	<0.011 J	<0.0080
Ethylbenzene	1	780	**0.84 J [1.1 J]**	0.76 J [0.69 J]	0.0040 J	0.0080 J	0.10	0.0010 J [0.0030 J]	0.0040	<0.0070	<0.011 J	<0.0080
Methylene Chloride	0.05	1,000	<1.2 [<1.2]	NA	0.010	<0.0090	<0.0080	0.0050 J [0.0050 J]	<0.0080	0.0050	<0.011 J	<0.0080
Styrene	- -	- -	2.9 [4.0]	NA	0.0010 J	0.0050 J	<0.0080	<0.0080 [<0.0090]	<0.0080	<0.0070	<0.011 J	<0.0080
Tetrachloroethene	1.3	300	<1.2 [<1.2]	NA	<0.0080	<0.0090	<0.0080	<0.0080 [<0.0090]	<0.0080	<0.0070	<0.011 J	<0.0080
Toluene	0.7	1,000	**1.7 J [1.5 J]**	**4.3 [4.5]**	0.0090	0.0090 J	0.19	0.0030 J [0.0030 J]	0.012	0.0090	0.0020 J	<0.0080
Xylenes (total)	0.26	1,000	**15 [21]**	**13 [12]**	0.026	0.032	0.26	0.0030 J [0.0050 J]	0.035	0.0050 J	0.0040 J	<0.0080
Total BTEX	- -	- -	18 J [24 J]	18 J [17 J]	0.043 J	0.049 J	1.9 J	0.18 J [0.29 J]	0.051	0.014 J	0.0060 J	0.0010 J
Total VOCs	- -	- -	20 J [28 J]	18 J [17 J]	0.14 J	0.11 J	1.9 J	0.25 J [0.40 J]	0.090 J	0.020 J	0.028 J	0.18 J
Semivolatile Organics												
2,4-Dimethylphenol	- -	- -	<0.33 [<0.33]	NA	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	<0.96	<0.59	<0.71 J	<0.53
2-Chloronaphthalene	- -	- -	<0.33 [<0.33]	NA	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	<0.96	<0.59	<0.71 J	<0.53
2-Methylnaphthalene	- -	- -	24 J [180 J]	1.0 J [1.0 J]	0.083 J	0.12 J	<0.51	<0.49 [<0.56]	0.46 J	<0.59	<0.71 J	<0.53
2-Methylphenol	0.33	1,000	<0.33 [<0.33]	NA	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	<0.96	<0.59	<0.71 J	<0.53
3,3'-Dichlorobenzidine	- -	- -	<0.33 [<0.33]	NA	<1.1 J	1.2	<1.0	<0.99 [<1.1]	<1.9	<1.2	<1.4 J	<1.1
4-Methylphenol	0.33	1,000	<0.33 [<0.33]	NA	0.038 J	<0.59	<0.51	**0.65 J [0.80 J]**	<0.96	<0.59	<0.71 J	<0.53
4-Nitroaniline	- -	- -	<0.80 [<0.80]	NA	<1.1 J	1.2	1.0	<0.99 [<1.1]	<1.9	<1.2	<1.4 J	<1.1
Acenaphthene	20	1,000	<0.33 [<0.33]	<0.33 [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	0.24 J	<0.59	<0.71 J	<0.53
Acenaphthylene	100	1,000	15 J [90 J]	0.56 J [0.48 J]	<0.54 J	0.023 J	<0.51	<0.49 [<0.56]	1.0	<0.59	<0.71 J	<0.53
Anthracene	100	1,000	5.0 J [27 J]	0.22 J [0.22 J]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	1.2	<0.59	<0.71 J	<0.53
Benzo(a)anthracene	1	11	**3.6 J [25 J]**	0.21 J [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	**2.4**	<0.59	<0.71 J	<0.53
Benzo(a)pyrene	0	1.1	**2.9 J [<0.33]**	<0.33 [<0.33]	<0.54 J	<0.59	<0.51	**0.078 J [0.11 J]**	**2.5**	<0.59	<0.71 J	<0.53
Benzo(b)fluoranthene	1	11	**2.6 J [<0.33]**	<0.33 [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	**2.1**	<0.59	<0.71 J	<0.53
Benzo(g,h,i)perylene	100	1,000	<0.33 [<0.33]	<0.33 [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	1.8	<0.59	<0.71 J	<0.53
Benzo(k)fluoranthene	0.8	110	**2.8 J [<0.33]**	<0.33 [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	**2.1**	<0.59	<0.71 J	<0.53
bis(2-Ethylhexyl)phthalate	- -	- -	<0.33 [<0.33]	NA	<0.54 J	0.14 J	<0.51	<0.49 [<0.56]	0.92 J	<0.59	0.10 J	<0.53
Butylbenzylphthalate	- -	- -	<0.33 [<0.33]	NA	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	<0.96	<0.59	<0.71 J	<0.53
Carbazole	- -	- -	2.8 J [<0.33]	NA	0.038 J	0.051 J	<0.51	<0.49 [<0.56]	0.34 J	<0.59	<0.71 J	<0.53
Chrysene	1	110	**3.0 J [20 J]**	0.18 J [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	**2.9**	<0.59	<0.71 J	<0.53
Dibenzo(a,h)anthracene	0.33	1.1	<0.33 [<0.33]	<0.33 [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	**0.72 J**	<0.59	<0.71 J	<0.53
Dibenzofuran	7	1,000	**8.4 J [45 J]**	NA	0.043 J	0.089 J	<0.51	<0.49 [<0.56]	0.19 J	<0.59	<0.71 J	<0.53
Diethylphthalate	- -	- -	<0.33 [<0.33]	NA	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	<0.96	<0.59	<0.71 J	<0.53
Di-n-Butylphthalate	- -	- -	<0.33 [<0.33]	NA	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	0.052 J	<0.59	<0.71 J	<0.53
Fluoranthene	100	1,000	11 J [67 J]	0.57 J [0.52 J]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	4.8	<0.59	<0.71 J	<0.53
Fluorene	30	1,000	**8.9 J [62 J]**	0.40 J [0.35 J]	0.038 J	0.10 J	<0.51	<0.49 [<0.56]	0.32 J	<0.59	<0.71 J	<0.53
Indeno(1,2,3-cd)pyrene	0.5	11	<0.33 [<0.33]	<0.33 [<0.33]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	**1.6**	<0.59	<0.71 J	<0.53
Naphthalene	12	1,000	**260 B [1,600 B]**	**14 B [27 B]**	0.64 J	0.46 J	<0.51	<0.49 [<0.56]	0.58 J	0.13 J	<0.71 J	<0.53
Phenanthrene	100	1,000	20 J [100 J]	0.88 J [0.85 J]	<0.54 J	0.043 J	<0.51	<0.49 [<0.56]	3.1	<0.59	<0.71 J	<0.53
Phenol	0.33	1,000	<0.33 [<0.33]	NA	**0.36 J**	<0.59	<0.51	<0.49 [<0.56]	<0.96	0.096 J	<0.71 J	<0.53
Pyrene	100	1,000	7.2 J [43 J]	0.44 J [0.39 J]	<0.54 J	<0.59	<0.51	<0.49 [<0.56]	5.4	<0.59	<0.71 J	<0.53
Total PAHs	- -	- -	370 J [2,200 J]	19 J [31 J]	0.76 J	0.75 J	<0.51	0.078 J [0.11 J]	33 J	0.13 J	<0.71	<0.53
Total SVOCs	0	- -	**380 J [2,300 J]**	**19 J [31 J]**	**1.2 J**	**3.4 J**	**1.0**	**0.73 J [0.91 J]**	**35 J**	**0.23 J**	**0.10 J**	<2.6

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Location ID:	6 NYCRR PART 375 SCOs		MW-8D		MW-18D	MW-19S	MW-19D	MW-20D	MW-21S	MW-21D	MW-22S	MW-22D
Sample Depth(Feet):	Unrestricted (Exceedences in bold)	Industrial (Exceedences shaded)	20 - 22	22 - 24	10 - 14	5 - 6	16 - 17	26 - 30	0 - 8	22 - 26	6 - 7	22 - 23
Date Collected:			02/17/98	02/17/98	12/20/02	01/07/03	01/07/03	12/27/02	12/30/02	12/30/02	01/06/03	01/06/03
X = Soil Removed During IRM:												
Inorganics												
Aluminum	- -	- -	2,980 [1,350]	NA	8.83	3.10 J	3.74	2.37 [2.34]	9.65	2.49	2.69 J	3.27
Antimony	- -	- -	1.80 B [1.40 B]	NA	<0.0171 J	0.0198	0.0119	<0.0151 J [<0.0153 J]	<0.0142 J	<0.0153 J	0.0221 J	0.0169
Arsenic	13	16	1.40 B [1.50 B]	NA	0.00380 B	0.0135	0.00120 B	<0.0103 [<0.0105]	0.00910 B	<0.0105	0.0151 J	0.0116
Barium	350	10,000	102 [80.3]	NA	0.0529	0.0745	0.0892	0.0801 [0.0816]	0.168	0.0720	0.00770 J	0.0860
Beryllium	7.2	2,700	<0.420 [<0.300]	NA	<0.00290	0.00340	0.00200	<0.00260 [<0.00260]	<0.00240	<0.00260	0.00380 J	0.00290
Cadmium	2.5	60	<0.420 [<0.300]	NA	<0.00440 J	0.00510	0.00310	<0.00390 J [<0.00390 J]	0.00710 J	<0.00390 J	0.00570 J	0.00430
Calcium	- -	- -	253,000 E [192,000 E]	NA	<34.4	179	178	178 [177]	76.2	171	296 J	184
Chromium	- -	- -	5.10 [3.50]	NA	0.0148	0.00500 B	0.00580	0.00320 B [0.00330 B]	0.0622	0.00350 B	0.00260 JB	0.00510
Cobalt	- -	- -	2.90 B [1.60 B]	NA	0.0103	0.00210 B	0.00340	0.00200 B [0.00200 B]	0.00900	0.00230 B	0.00120 JB	0.00300
Copper	50	10,000	7.40 B [4.70 B]	NA	0.0209	0.00680 B	0.00690	0.00420 B [0.00490 B]	0.0889	0.00540 B	0.0174 J	0.00620 B
Cyanide	27	10,000	<0.790 [<0.760]	<0.790 [<0.760]	<0.000801	0.000157 J	<0.00156 J	<0.00188 [<0.00208]	<0.000718	<0.000880	<1.04 J	<0.794 J
Iron	- -	- -	8,880 E [4,960 E]	NA	19.5 J	5.60 J	8.91	4.90 J [5.20 J]	20.2 J	5.58 J	1.70 J	7.95
Lead	63	3,900	5.90 [4.40]	NA	0.00910 B	0.00330 B	0.00340 B	0.00190 B [0.00220 B]	0.163	0.00280 B	0.00610 JB	0.00330 B
Magnesium	- -	- -	8,180 E [5,800 E]	NA	<4.10	5.02 J	7.10	<6.11 [<5.30]	13.2	<5.16	0.00339 J	0.00668
Manganese	1,600	10,000	420 [330]	NA	0.160	0.220	0.234	0.167 [0.170]	0.355	0.218	0.339 J	0.232
Mercury	0.18	5.7	<0.200 [<0.150]	NA	<0.00290	<0.00340	<0.00250	<0.00210 [<0.00250]	0.000860 B	0.0000980 B	<0.00300 J	<0.00260
Nickel	30	10,000	9.70 B [5.40 B]	NA	0.0221	0.00660 B	0.00880	0.00520 B [0.00550 B]	0.0373	0.00530 B	0.00310 JB	0.00750
Potassium	- -	- -	909 BE [416 BE]	NA	<1.97	1.03 J	1.15	<1.01 [<0.921]	<2.65	<0.893	0.101 JB	1.11
Selenium	3.9	6,800	0.940 BN [<0.600]	NA	<0.0234	0.0270	0.0163	<0.0206 [<0.0210]	<0.0194	<0.0210	0.0302 J	0.0232
Silver	2	6,800	<0.420 [<0.300]	NA	<0.00440	0.00510	0.00310	<0.00390 [<0.00390]	0.00370	<0.00390	0.00570 J	0.00430
Sodium	- -	- -	1,560 BE [1,170 BE]	NA	<0.664	1.86	6.38	<17.8 [<19.1]	<0.566	<1.75	4.19 J	21.4
Thallium	- -	- -	<0.400 [<0.600]	NA	<0.0321	0.0372	0.0225	<0.0283 [<0.0288]	<0.0266	<0.0288	0.0416 J	0.0318
Vanadium	- -	- -	4.60 B [2.80 B]	NA	0.0145	0.00430 B	0.00560	0.00340 B [0.00320 B]	0.0205	0.00380 B	0.00460 JB	0.00490 B
Zinc	109	10,000	37.4 [21.9]	NA	0.0583	0.0184 B	0.0216	0.0135 B [0.0150 B]	0.223	0.0167 B	0.0378 J	0.0197 B
PCBs												
Aroclor-1242	- -	- -	<0.033 [<0.033]	NA	<0.028	<0.031	<0.027	<0.025 [<0.029]	0.039	<0.030	<0.031 J	<0.027
Aroclor-1248	- -	- -	<0.033 [<0.033]	NA	<0.028	<0.031	<0.027	<0.025 [<0.029]	<0.025	<0.030	<0.031 J	<0.027
Aroclor-1254	- -	- -	<0.033 [<0.033]	NA	<0.028	<0.031	<0.027	<0.025 [<0.029]	0.17	<0.030	<0.031 J	<0.027
Aroclor-1260	- -	- -	<0.033 [<0.033]	NA	<0.028	<0.031	<0.027	<0.025 [<0.029]	0.20	<0.030	<0.031 J	<0.027
Total PCBs	- -	- -	<0.067 [<0.067]	NA	<0.054	<0.059	<0.053	<0.049 [<0.056]	0.41	<0.058	<0.071	<0.053
Pesticides												
4,4'-DDD	0.0033	180	<0.0033 [<0.0033]	NA	<0.0054 J	<0.0059 J	<0.0053	<0.0049 J [<0.0056 J]	**0.023 J**	<0.0058 J	<0.0071 J	<0.0053
4,4'-DDE	0.0033	120	<0.0033 [<0.0033]	NA	<0.0054 J	<0.0059 J	<0.0053	<0.0049 J [<0.0056 J]	**0.019 J**	<0.0058 J	<0.0071 J	<0.0053
4,4'-DDT	0.0033	94	<0.0033 [0.00032 JPB]	NA	<0.0054 J	<0.0059 J	<0.0053	<0.0049 J [<0.0056 J]	**0.051 J**	<0.0058 J	<0.0071 J	<0.0053
Aldrin	0.005	1.4	<0.0017 [<0.0017]	NA	<0.0033 J	<0.0036 J	<0.0032	<0.0030 J [<0.0034 J]	<0.0029 J	<0.0035 J	<0.0043 J	<0.0032
Alpha-Chlordane	0.094	47	<0.0017 [<0.0017]	NA	<0.0028 J	<0.0031 J	<0.0027	<0.0025 J [<0.0029 J]	0.0048 J	<0.0030 J	<0.0036 J	<0.0027
Delta-BHC	0.04	1,000	0.00053 JP [<0.0017]	NA	0.00080 J	<0.0031 J	<0.0027	<0.0025 J [<0.0029 J]	<0.0025 J	<0.0030 J	<0.0036 J	<0.0027
Dieldrin	0.005	2.8	<0.0033 [<0.0033]	NA	<0.0054 J	<0.0059 J	<0.0053	<0.0049 J [<0.0056 J]	**0.012 J**	<0.0058 J	<0.0071 J	<0.0053
Endosulfan II	2.4	920	0.00098 JP [0.0018 JP]	NA	<0.0054 J	<0.0059 J	<0.0053	<0.0049 J [<0.0056 J]	<0.0048 J	<0.0058 J	<0.0071 J	<0.0053
Endosulfan Sulfate	2.4	920	<0.0033 [<0.0033]	NA	<0.0054 J	<0.0059 J	<0.0053	<0.0049 J [<0.0056 J]	<0.0048 J	<0.0058 J	<0.0071 J	<0.0053
Endrin	0.014	410	<0.0033 [<0.0033]	NA	<0.0081 J	<0.0090 J	<0.0080	<0.0074 J [<0.0085 J]	<0.0073 J	<0.0089 J	<0.011 J	<0.0080
Endrin Ketone	- -	- -	<0.0033 [<0.0033]	NA	<0.0054 J	<0.0059 J	<0.0053	<0.0049 J [<0.0056 J]	0.019 J	<0.0058 J	<0.0071 J	<0.0053
Gamma-Chlordane	- -	- -	0.00049 JPB [0.0020 JP]	NA	<0.0028 J	<0.0031 J	<0.0027	<0.0025 J [<0.0029 J]	0.0067 J	<0.0030 J	<0.0036 J	<0.0027
Heptachlor	0.042	29	<0.0017 [0.00094 JP]	NA	<0.0028 J	<0.0031 J	<0.00056 J	<0.0025 J [<0.0029 J]	<0.0025 J	<0.0030 J	<0.0036 J	<0.0027
Methoxychlor	- -	- -	<0.017 [<0.017]	NA	<0.028 J	<0.031 J	<0.027	<0.025 J [<0.029 J]	<0.025 J	<0.030 J	<0.036 J	<0.027

TABLE 7
SOIL ANALYTICAL RESULTS FOR DETECTED VOCs, SVOCs, INORGANIC CONSTITUENTS, PCBs, AND PESTICIDES (ppm)

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Notes:

1. Samples were collected by ARCADIS on the dates indicated.
2. VOCs = Target Compound List (TCL) Volatile Organic Compounds.
3. BTEX = Benzene, toluene, ethylbenzene and xylenes.
4. SVOCs = TCL Semi-Volatile Organic Compounds.
5. PAHs = Polynuclear aromatic hydrocarbons.
6. Inorganics = Resource Conservation Recovery Act (RCRA) Metals and Cyanide.
7. PCBs = Polychlorinated Biphenyls.
8. Samples were analyzed by TestAmerica Laboratories, Inc. (TestAmerica) located in Shelton, Connecticut for:
   - VOCs/BTEX using United States Environmental Protection Agency (USEPA) SW-846 Method 8260.
   - SVOCs/PAHs using USEPA SW-846 Method 8270.
   - Inorganics using USEPA SW-846 Methods 6010, 7471 and 335.4.
   - PCBs using USEPA SW-846 Method 8082.
9. Only those constituents detected in one or more samples are summarized.
10. All concentrations reported in dry weight parts per million (ppm), which is equivalent to milligrams per kilogram (mg/kg).
11. Field duplicate sample results are presented in brackets.
12. Data qualifiers are defined as follows:
    < - Constituent not detected at a concentration above the reported detection limit.
    B (Inorganic) - Indicates an estimated value between the instrument detection limit and the Reporting Limit (RL).
    B (Organic) - Compound was found in blank.
    E (Inorganic) - Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
    E (Organic) - Indicates the linear range of exceedence of instrument.
    J - Indicates that the associated numerical value is an estimated concentration.
    N - The spike recovery exceeded the upper or lower control limits.
    R - Data was rejected due to a deficiency in the data generation process.
13. 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) are from Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375-6.8(a) and (b), effective December 14, 2006.
14. Bold font indicates that the result exceeds the 6 NYCRR Part 375 Unrestricted Use SCO.
15. Shading indicates that the result exceeds the 6 NYCRR Part 375 Industrial Use SCO.
16. - - = No 6 NYCRR Part 375 SCO listed.
17. NA = Not Analyzed.
18. Results have been validated in accordance with USEPA National Functional Guidelines of October 1999.

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Current/Future
Receptor Population:	Water
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Surface Sediment										
			Benzo(a)anthracene	6.30E-07	NA	2.80E-06	3.43E-06	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.00E-06	NA	2.20E-05	2.70E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	4.20E-07	NA	1.80E-06	2.22E-06	NA	NA	NA	NA	NA
			Dibenz[a,h]anthracene	1.80E-06	NA	7.70E-06	9.50E-06	NA	NA	NA	NA	NA
			Indeno[1,2,3-c,d]pyrene	3.70E-07	NA	1.60E-06	1.97E-06	NA	NA	NA	NA	NA
		Exposure Point Total		8.22E-06		3.59E-05	4.41E-05		0.00E+00		0.00E+00	0.00E+00

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

Table 2
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
Reasonable Maximum Exposure
Niagara Mohawk, A National Grid Company
Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Current/Future
Receptor Population:	Water
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Surface Sediment										
			Benzo(a)anthracene	7.80E-07	NA	1.30E-05	1.38E-05	NA	NA	NA	NA	NA
			Benzo(a)pyrene	6.30E-06	NA	1.00E-04	1.06E-04	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.20E-07	NA	8.40E-06	8.92E-06	NA	NA	NA	NA	NA
			Benzo(k)fluoranthene	7.60E-08	NA	1.20E-06	1.28E-06	NA	NA	NA	NA	NA
			Dibenz[a,h]anthracene	2.20E-06	NA	3.60E-05	3.82E-05	NA	NA	NA	NA	NA
			Indeno[1,2,3-c,d]pyrene	4.70E-07	NA	7.60E-06	8.07E-06	NA	NA	NA	NA	NA
		Exposure Point Total		1.03E-05		1.66E-04	1.77E-04		0.00E+00		0.00E+00	0.00E+00

Definitions:
BW: Body Weight
IMMUNO: Immune System
N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Current/Future
Receptor Population:	Water
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Surface Sediment										
			Benzo(a)pyrene	1.10E-06	NA	2.00E-06	3.10E-06	NA	NA	NA	NA	NA
			Dibenz[a,h]anthracene	3.80E-07	NA	7.10E-07	1.09E-06	NA	NA	NA	NA	NA
		Exposure Point Total		1.48E-06		2.71E-06	4.19E-06		0.00E+00		0.00E+00	0.00E+00

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Subsurface Soil										
			Benzo(a)anthracene	1.80E-06	NA	5.70E-15	1.80E-06	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.30E-05	NA	4.00E-14	1.30E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.30E-06	NA	3.90E-15	1.30E-06	NA	NA	NA	NA	NA
			Dibenz[a,h]anthracene	3.90E-06	NA	1.20E-14	3.90E-06	NA	NA	NA	NA	NA
		Exposure Point Total		2.00E-05		6.16E-14	2.00E-05		0.00E+00		0.00E+00	0.00E+00

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil	Subsurface Soil										
			Benzo(a)anthracene	7.30E-06	NA	1.10E-13	7.30E-06	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.20E-05	NA	8.10E-13	5.20E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.10E-06	NA	7.90E-14	5.10E-06	NA	NA	NA	NA	NA
			Dibenz[a,h]anthracene	1.50E-05	NA	2.40E-13	1.50E-05	NA	NA	NA	NA	NA
			Indeno[1,2,3-c,d]pyrene	2.30E-06	NA	3.60E-14	2.30E-06	NA	NA	NA	NA	NA
		Exposure Point Total		8.17E-05		1.28E-12	8.17E-05		0.00E+00		0.00E+00	0.00E+00

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water										
			Benzene	6.90E-05	7.30E-05	2.50E-07	1.42E-04	Blood	3.70E+00	3.70E+00	1.30E-02	7.41E+00
			Ethylbenzene	NA	6.20E-06	NA	6.20E-06	Liver, Kidney	3.80E-02	2.90E-02	4.50E-04	6.75E-02
			Xylenes (Total)	NA	NA	NA	NA	Hyperactivity	7.00E-02	1.00E+00	8.90E-04	1.07E+00
			2-Methylnapththalene	NA	NA	NA	NA	Respiratory	4.30E+00	NA	1.50E-01	4.45E+00
			Benzo(a)pyrene	4.50E-04	5.10E-04	3.10E-04	1.27E-03	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	6.90E-05	NA	4.80E-06	7.38E-05	NA	NA	NA	NA	NA
			Naphthalene	NA	1.80E-03	NA	1.80E-03	Decreased BW	4.20E+00	2.10E+02	NA	2.14E+02
			Arsenic	3.10E-04	NA	7.40E-08	3.10E-04	Hyperpigmentation	7.90E+00	NA	1.90E-03	7.90E+00
			Barium	NA	NA	NA	NA	Kidney	1.40E+00	NA	3.30E-04	1.40E+00
			Mercury	NA	NA	NA	NA	Immune	1.70E-01	1.30E+00	5.80E-03	1.48E+00
			Thallium	NA	NA	NA	NA	Blood	4.90E+01	NA	1.20E-02	4.90E+01
			Alpha-BHC	9.30E-07	2.00E-06	6.30E-09	2.94E-06	Liver	2.20E-04	NA	1.40E-06	2.21E-04
			Heptachlor	5.40E-07	1.20E-06	1.10E-09	1.74E-06	Liver	2.80E-03	NA	5.80E-06	2.81E-03
		Exposure Point Total		8.99E-04		3.15E-04	3.61E-03		7.08E+01		1.84E-01	2.87E+02

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

BLOOD:	7.40E+00
BW:	2.14E+02
CNS	1.07E+00
IMMUNO:	1.48E+00
KIDNEY:	1.47E+00
RESP:	4.45E+00
SKIN:	7.90E+00

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water										
			Benzene	1.40E-04	1.70E-04	2.90E-06	3.13E-04	Blood	1.60E+00	2.10E+00	3.90E-02	3.74E+00
			Ethylbenzene	NA	1.40E-05	NA	1.40E-05	Liver, Kidney	1.60E-02	1.70E-02	1.30E-03	3.43E-02
			2-Methylnapththalene	NA	NA	NA	NA	Respiratory	1.80E+00	NA	4.30E-01	2.23E+00
			Benzo(a)pyrene	3.40E-05	4.20E-05	3.20E-05	1.08E-04	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.10E-06	NA	4.80E-06	9.90E-06	NA	NA	NA	NA	NA
			Naphthalene	NA	4.20E-03	NA	4.20E-03	Decreased BW	1.80E+00	1.20E+02	NA	1.22E+02
			Arsenic	6.50E-04	NA	8.70E-07	6.51E-04	Hyperpigmentation	3.40E+00	NA	5.60E-03	3.41E+00
			Thallium	NA	NA	NA	NA	Blood	2.10E+01	NA	3.50E-02	2.10E+01
			Alpha-BHC	2.00E-06	4.60E-06	7.40E-08	6.67E-06	Liver	9.50E-05	NA	4.30E-06	9.93E-05
			Heptachlor	1.20E-06	2.70E-06	1.30E-08	3.91E-06	Liver	1.20E-03	NA	1.70E-05	1.22E-03
		Exposure Point Total		8.32E-04		4.07E-05	5.31E-03		2.96E+01		5.11E-01	1.52E+02

BLOOD:	2.47E+01
BW:	1.22E+02
RESP:	2.23E+00
SKIN:	3.41E+00

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Future
Receptor Population:	Construction Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water										
			Benzene	1.10E-07	NA	1.20E-05	1.21E-05	Blood	3.30E-02	NA	3.70E+00	3.73E+00
			2-Methylnapththalene	NA	NA	NA	0.00E+00	Respiratory	3.90E-02	NA	4.40E+00	4.44E+00
			Benzo(a)pyrene	2.40E-08	NA	2.70E-06	2.72E-06	NA	NA	NA	NA	0.00E+00
			Naphthalene	NA	NA	NA	NA	Decreased BW	3.80E-02	NA	4.20E+00	4.24E+00
			Arsenic	4.70E-07	NA	5.20E-05	5.25E-05	Hyperpigmentation	7.30E-02	NA	8.00E+00	8.07E+00
			Barium	NA	NA	NA	NA	Kidney	1.30E-02	NA	1.40E+00	1.41E+00
			Thallium	NA	NA	NA	0.00E+00	Blood	4.50E-01	NA	4.90E+01	4.95E+01
		Exposure Point Total		6.04E-07		6.67E-05	6.73E-05		6.46E-01		7.07E+01	7.13E+01

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

BLOOD:	5.52E+01
BW:	4.68E+00
KIDNEY:	1.41E+00
RESP:	4.40E+00
SKIN:	8.07E+00

Table 2

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

Reasonable Maximum Exposure

Niagara Mohawk, A National Grid Company

Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe:	Future
Receptor Population:	Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water										
			Benzene	4.20E-07	NA	7.40E-05	7.44E-05	Blood	5.40E-03	NA	9.40E-01	9.45E-01
			2-Methylnapththalene	NA	NA	NA	NA	Respiratory	6.30E-03	NA	1.10E+00	1.11E+00
			Benzo(a)pyrene	9.80E-08	NA	1.70E-05	1.71E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.50E-08	NA	2.60E-06	2.62E-06	NA	NA	NA	NA	NA
			Naphthalene	NA	NA	NA	NA	Decreased BW	6.10E-03	NA	1.10E+00	1.11E+00
			Arsenic	1.90E-06	NA	3.30E-04	3.32E-04	Hyperpigmentation	1.20E-02	NA	2.00E+00	2.01E+00
			Thallium	NA	NA	NA	NA	Blood	7.20E-02	NA	1.30E+01	1.31E+01
			Alpha-BHC	5.70E-09	NA	1.00E-06	1.01E-06	Liver	3.20E-07	NA	5.50E-05	5.53E-05
		Exposure Point Total		2.44E-06		4.25E-04	4.27E-04		1.02E-01		1.81E+01	1.82E+01

Definitions:

BW: Body Weight

IMMUNO: Immune System

N/A: Not available (NCEA confirmed that all chemicals without toxicity information listed above do not have provisional or surrogate values available)

BLOOD:	1.41E+01
BW:	1.22E+00
RESP:	1.11E+00
SKIN:	2.01E+00

Table 3
SELECTION OF EXPOSURE PATHWAYS
Niagara Mohawk, A National Grid Company
Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Soil	Soil	Surface soil	Trespasser	Child, Adolescent, and Adult	Dermal	On-site	None	Post-IRM data indicates minimal site-related contamination.
						Ingestion	On-site	None	Post-IRM data indicates minimal site-related contamination
						Inhalation	On-site	None	Post-IRM data indicates minimal site-related contamination
				Site Worker	Adult	Dermal	On-site	None	Post-IRM data indicates minimal site-related contamination
						Ingestion	On-site	None	Post-IRM data indicates minimal site-related contamination
						Inhalation	On-site	None	Post-IRM data indicates minimal site-related contamination
			Subsurface soil	Site Worker	Adult	Dermal	On-site	None	Site Workers are not expected to come into contact with subsurface soils.
						Ingestion	On-site	None	Site Workers are not expected to come into contact with subsurface soils.
						Inhalation	On-site	None	Site Workers are not expected to come into contact with subsurface soils.
			Indoor air	Resident	Child, Adolescent, and Adult	Inhalation	Off-site	None	Dust generation not a likely exposure pathway due to distance of site from residential properties.
				Site Worker	Adult	Inhalation	On/Off-site	None	Dust generation not a likely exposure pathway.
	Sediment	Sediment	Sediment	Wader	Child, Adolescent, and Adult	Dermal	Off-site	Quant	Access to Onondaga Lake is not restricted
						Ingestion	Off-site	Quant	Access to Onondaga Lake is not restricted
						Inhalation	Off-site	None	Inhalation of sediments is not expected to be a significant exposure pathway;
	Surface Water	Surface Water	Surface Water	Wader	Child, Adolescent, and Adult	Dermal	Off-site	None	No surface water data available
						Ingestion	Off-site	None	No surface water data available
						Inhalation	Off-site	None	No surface water data available
Future	Soil	Soil	Subsurface soil	Construction Worker	Adult	Dermal	On-site	Quant	Contact with subsurface soil possible during future excavation activities
						Ingestion	On-site	Quant	Contact with subsurface soil possible during future excavation activities
						Inhalation	On-site	None	Inhalation of soil during construction/utility work is not expected to be significant
				Utility Worker	Adult	Dermal	On-site	Quant	Contact with subsurface soil possible during future maintenance of underground utilitie
						Ingestion	On-site	Quant	Contact with subsurface soil possible during future maintenance of underground utilitie
						Inhalation	On-site	None	Inhalation of soil during construction/utility work is not expected to be significant
	Groundwater	Groundwater	Tqp Water	Resident	Child and Adult	Dermal	Off-site	Quant	Although groundwater is naturally high in saline, it is designated as a potable water supply by the State
						Ingestion	Off-site	Quant	Although groundwater is naturally high in saline, it is designated as a potable water supply by the State
						Inhalation	Off-site	Quant	Although groundwater is naturally high in saline, it is designated as a potable water supply by the State
				Site Worker	Adult	Dermal	On-site	None	Residential use is quantitatively evaluated
						Ingestion	On-site	None	Residential use is quantitatively evaluated
						Inhalation	On-site	None	Residential use is quantitatively evaluated
			Indoor air	Resident	Child, Adolescent and Adult	Inhalation	Off-site	None	Vapor intrusion investigation initiated under a separate action.
				Site Worker	Adult	Inhalation	On/Off-site	None	Vapor intrusion investigation initiated under a separate action
			Groundwater	Construction Worker	Adult	Dermal	On-site	Quant	Shallow groundwater may be contacted during excavation activities
						Ingestion	On-site	Quant	Shallow groundwater may be contacted during excavation activities
						Inhalation	On-site	None	Inhalation of contaminants associated with subsurface soils is expected to be minimal
				Utility Worker	Adult	Dermal	On-site	Quant	Shallow groundwater may be contacted during utility maintenance activitie
						Ingestion	On-site	Quant	Shallow groundwater may be contacted during utility maintenance activitie
						Inhalation	On-site	None	Inhalation of contaminants associated wiith groundwater during trenching activities is expected to be minimal.

Quant = quantitative risk analysis

Table 4
EXPOSURE POINT CONCENTRATION SUMMARY FOR SEDIMENT
Niagara Mohawk, A National Grid Company
Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL (Distribution) (2)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic (3)	Rationale
Sediment - Onondaga Lake	Arsenic	mg/kg	1.783	2.7 (N)	3.4	2.7	mg/kg	95% Student's-t	UCL
	Benzo(a)anthracene	mg/kg	3.174	5.7 (N)	7.6	5.7	mg/kg	95% Student's-t	UCL
	Benzo(a)pyrene	mg/kg	2.609	4.6 (N)	6.5	4.6	mg/kg	95% Student's-t	UCL
	Benzo(b)fluoranthene	mg/kg	2.129	3.8 (N)	5.4	3.8	mg/kg	95% Student's-t	UCL
	Benzo(k)fluoranthene	mg/kg	1.587	5.5 (G)	3.7 (J)	5.5	mg/kg	95% Approx. Gamma	UCL
	Dibenz(a,h)anthracene	mg/kg	0.463	1.6 (G)	1.0 (J)	1.6	mg/kg	95% Approx. Gamma	UCL
	Indeno(1,2,3-cd)pyrene	mg/kg	1.018	3.4 (G)	2.3 (J)	3.4	mg/kg	95% Approx. Gamma	UCL
	Naphthalene	mg/kg	0.887	3.2 (G)	4.4 (J)	3.2	mg/kg	95% Approx. Gamma	UCL
	N-Nitroso-di-n-propylamine	mg/kg	0.450	NA	0.45 (J)	0.45	mg/kg	Maximum	only one detect

Notes:
(1) Arithmetic mean of detected concentrations.
(2) G = Gamma; N = Normal
(3) t = Student's t; Approx. Gamma = Gamma distribution
UCL = upper confidence limit of the mean
mg/kg = milligrams per kilogram

Table 5
EXPOSURE POINT CONCENTRATION SUMMARY FOR SUBSURFACE SOIL
Niagara Mohawk, A National Grid Company
Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe: Current/Future
Medium: Subsurface Soil
Exposure Medium: Subsurface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL (Distribution) (2)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic	Rationale
Subsurface Soil	Benzo(a)anthracene	mg/kg	17.40	108 (NP)	480 (E)	108	mg/kg	97.5% Chebyshev (mean, Sd)	UCL
	Benzo(a)pyrene	mg/kg	12.67	77 (NP)	340	77	mg/kg	97.5% Chebyshev (mean, Sd)	UCL
	Benzo(b)fluoranthene	mg/kg	12.51	75 (NP)	330	75	mg/kg	97.5% Chebyshev (mean, Sd)	UCL
	Benzo(k)fluoranthene	mg/kg	12.21	73 (NP)	320	73	mg/kg	97.5% Chebyshev (mean, Sd)	UCL
	Chrysene	mg/kg	14.79	90 (NP)	400 (E)	90	mg/kg	97.5% Chebyshev (mean, Sd)	UCL
	Dibenz(a,h)anthracene	mg/kg	32.58	23 (NP)	67	23	mg/kg	99% Chebyshev (mean, Sd)	UCL
	Indeno(1,2,3-cd)pyrene	mg/kg	5.80	34 (NP)	150	34	mg/kg	97.5% Chebyshev (mean, Sd)	UCL
	Naphthalene	mg/kg	8.45	87 (NP)	260	87	mg/kg	99% Chebyshev (mean, Sd)	UCL
	Phenanthrene	mg/kg	396.80	4300 (NP)	13000 (EJ)	4,300	mg/kg	99% Chebyshev (mean, Sd)	UCL

Notes:
(1) Arithmetic mean of detected concentrations.
(2) NP = Non-parametric

UCL = upper confidence limit of the mean
J = organics, estimated value
E = estimated value, above calibration range
mg/kg = milligrams per kilogram

Table 6
EXPOSURE POINT CONCENTRATION SUMMARY FOR GROUNDWATER
Niagara Mohawk, A National Grid Company
Hiawatha Boulevard Former Manufactured Gas Plant

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL (Distribution) (2)	Maximum Concentration (Qualifier)	Exposure Point Concentration			
						Value	Units	Statistic (3)	Rationale
Groundwater	Benzene	µg/L	93.9	229 (NP)	1,200	229	µg/L	95% Chebyshev (Mean, Sd)	UCL
	Ethylbenzene	µg/L	29.8	60 (LN)	680	60	µg/L	95% H-UCL	UCL
	Xylenes (total)	µg/L	86.5	219 (NP)	1,300	219	µg/L	95% Chebyshev (Mean, Sd)	UCL
	2-Methylnaphthalene	µg/L	58.5	270 (NP)	750 (J)	270	µg/L	99% Chebyshev (Mean, Sd)	UCL
	4-Methylphenol	µg/L	1,299	10,100 (NP)	14,000	10,100	µg/L	99% Chebyshev (Mean, Sd)	UCL
	Benzo(a)pyrene	µg/L	0.4	N/A	0.4 (J)	0.4	µg/L	Maximum	less than 5 detects
	Benzo(b)fluoranthene	µg/L	0.6	N/A	0.6 (J)	0.6	µg/L	Maximum	less than 5 detects
	Naphthalene	µg/L	282.6	1,300 (NP)	4,600	1,300	µg/L	99% Chebyshev (Mean, Sd)	UCL
	Arsenic	µg/L	25.4	N/A	37.3	37.3	µg/L	Maximum	less than 5 detects
	Barium	µg/L	1,643	4,300 (NP)	13,100 (EJ)	4,300	µg/L	95% Adjusted Gamma	UCL
	Cyanide	µg/L	158.7	270 (NP)	1,030 (J)	270	µg/L	95% Adjusted Gamma	UCL
	Mercury	µg/L	0.80	N/A	0.8	0.8	µg/L	Maximum	less than 5 detects
	Thallium	µg/L	38.4	N/A	61.1	61.1	µg/L	Maximum	less than 5 detects
	Alpha-BHC	µg/L	0.02	N/A	0.027 (J)	0.027	µg/L	Maximum	less than 5 detects
	Heptachlor	µg/L	0.015	N/A	0.022 (J)	0.022	µg/L	Maximum	less than 5 detects

Notes:
(1) Arithmetic mean of detected concentrations.
(2) NP = Non-parametric; LN = Lognormal
(3) Adjusted Gamma = Gamma distribution
UCL = upper confidence limit of the mean
J = organics, estimated value
E = estimated value, above calibration range
µg/L = micrograms per liter
N/A = Not applicable

Table 7
EXPOSURE POINT CONCENTRATION SUMMARY FOR SURFACE SOIL

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
SUPPLEMENTAL HUMAN HEALTH RISK ASSESSMENT

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean (1)	95% UCL (Distribution) (2)	Maximum Concentration (Qualifier)	Reasonable Maximum Exposure				Central Tendency			
						Value	Units	Statistic (3)	Rationale	Value	Units	Statistic	Rationale
Surface Soil	Benzo(a)anthracene	mg/kg	1.6	N/A	2.1	2.1	mg/kg	Maximum	less than 5 detects	1.6	mg/kg	Mean	Mean
	Benzo(a)pyrene	mg/kg	1.65	N/A	2.2	2.2	mg/kg	Maximum	less than 5 detects	1.65	mg/kg	Mean	Mean
	Benzo(b)fluoranthene	mg/kg	2.3	N/A	3.2	3.2	mg/kg	Maximum	less than 5 detects	2.3	mg/kg	Mean	Mean
	Benzo(k)fluoranthene	mg/kg	1.3	N/A	1.6	1.6	mg/kg	Maximum	less than 5 detects	1.3	mg/kg	Mean	Mean
	Dibenz(a,h)anthracene	mg/kg	0.19	N/A	0.22 (J)	0.22	mg/kg	Maximum	less than 5 detects	0.19	mg/kg	Mean	Mean
	Indeno(1,2,3-cd)pyrene	mg/kg	0.43	N/A	0.48 (J)	0.48	mg/kg	Maximum	less than 5 detects	0.43	mg/kg	Mean	Mean
	Arsenic	mg/kg	27.7	N/A	51	51	mg/kg	Maximum	less than 5 detects	27.7	mg/kg	Mean	Mean

Notes:
(1) Arithmetic mean of detected concentrations.
(2) N/A = Not applicable
(3) Maximum values were used because there were less than 5 detects.
J = organics, estimated value
mg/kg = milligrams per kilogram

Table 8
NON-CANCER TOXICITY DATA - ORAL/DERMAL
Niagara Mohawk, a National Grid Company
Hiawatha Former Manufactured Gas Plant

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (1)	Absorbed RfD for Dermal		Primary Target Organ	Combined Uncertainty/Modifying Factors	RfD:Target Organs	
		Value	Units		Value	Units			Source	Date
alpha-BHC	chronic	8.0E-03	mg/kg-d	1	8.0E-03	mg/kg-d	Liver	100/1	ATSDR	9/1/2005
Arsenic	chronic	3.0E-04	mg/kg-d	1	3.0E-04	mg/kg-d	Hyperpigmentation,	3/1	IRIS	2/1/1993
Barium	chronic	2.0E-01	mg/kg-d	0.07	1.4E-02	mg/kg-d	Kidney	3/1	IRIS	1/21/1999
Benzene	chronic	4.0E-03	mg/kg-d	1	4.0E-03	mg/kg-d	Decreased lymphocyte count	300/1	IRIS	4/17/2003
Benzo(a)anthracene	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS	11/1/1994
Benzo(a)pyrene	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS	11/1/1994
Benzo(b)fluoranthene	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS	11/1/1994
Benzo(k)fluoranthene	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS	11/1/1994
Chrysene	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS	11/1/1994
Cyanide	chronic	4.0E-02	mg/kg-d	1.0E+00	4.0E-02	NA	Decreased body weight	100/5	IRIS	2/1/1996
Dibenzo(a,h)anthracene	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS (2)	11/1/1994
Ethylbenzene	chronic	1.0E-01	mg/kg-d	1	1.0E-01	mg/kg-d	Liver, kidney	1,000/1	IRIS	6/1/1991
Heptachlor	chronic	5.0E-04	mg/kg-d	1	5.0E-04	mg/kg-d	Liver	300/1	IRIS	3/1/1991
Indeno(1,2,3-cd)pyrene	chronic	NA	mg/kg-d	NA	NA	NA	N/A	N/A	IRIS	11/1/1994
Mercury	chronic	3.0E-04		1	3.0E-04	mg/kg-d	Immune	1000/1	IRIS (3)	5/1/1995
2-Methylnaphthalene	chronic	4.0E-03	mg/kg-d	1	4.0E-03	mg/kg-d	Respiratory	1000/1	IRIS	12/22/2003
4-Methylphenol	chronic	NA	NA	NA	NA	NA	NA	NA	IRIS	8/1/1993
Naphthalene	chronic	2.0E-02	mg/kg-d	1	2.0E-02	mg/kg-d	Decreased body weight	3,000/1	IRIS	9/17/1998
N-Nitroso-di-n-propylamine	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS	7/1/1993
Phenanthrene	chronic	NA	NA	NA	NA	NA	N/A	N/A	IRIS	9/1/1994
Thallium	chronic	8.0E-05	mg/kg-d	1	8.0E-05	mg/kg-d	Blood	3000/1	IRIS (4)	9/1/1990
Xylenes (total)	chronic	2.0E-01	mg/kg-d	1	2.0E-01	mg/kg-d	Hyperactivity, mortality	1,000/1	IRIS	2/21/2003

(1) USEPA 2001b
(2) Sodium Cyandide was used as a surrogate.
(3) Mercuric Chloride was used as a surrogate.
(4) Thallium Chloride was used as a surrogate.
NA = not available
N/A = not applicable
IRIS = Integrated Risk Information System
HEAST= Health Effects Assessment Summary Tables
NCEA = National Center for Environmental Assessment
ATSDR = Agency for Toxic Substatnces and Disease Registry
mg/kg-d = milligrams per kilogram per day

Table 9
NON-CANCER TOXICITY DATA - INHALATION
Niagara Mohawk, a National Grid Company
Hiawatha Former Manufactured Gas Plant

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Extrapolated RfD		Primary Target Organ	Combined Uncertainty/Modifying Factors	RfC:Target Organs	
		Value	Units	Value	Units			Source	Date
alpha-BHC	chronic	NA	NA	NA	NA	NA	N/A	IRIS	7/1/1993
Arsenic	chronic	NA	NA	NA	NA	NA	NA	IRIS	2/1/1993
Benzene	chronic	3.0E-02	mg/m^3	8.6E-03	mg/kg-d	Decreased lymphocyte count	300/1	IRIS (1)	4/17/2003
Benzo(a)anthracene	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Benzo(a)pyrene	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Benzo(b)fluoranthene	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Benzo(k)fluoranthene	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Chrysene	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Cyanide	chronic	NA	NA	NA	NA	NA	NA	IRIS	2/1/1996
Dibenzo(a,h)anthracene	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Ethylbenzene	chronic	1.0E+00	mg/m^3	2.9E-01	mg/kg-d	Developmental	300/1	IRIS (1)	3/1/1991
Heptachlor	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Indeno(1,2,3-cd)pyrene	chronic	NA	NA	NA	NA	NA	NA	IRIS	7/1/1993
Mercury	chronic	3.0E-04	mg/m^3	NA	NA	CNS	30/1	IRIS (2)	6/1/1995
2-Methylnaphthalene	chronic	NA	NA	NA	NA	NA	NA	IRIS	12/23/2003
4-Methylphenol	chronic	NA	NA	NA	NA	NA	NA	IRIS	4/1/1992
Naphthalene	chronic	3.0E-03	mg/m^3	8.6E-04	mg/kg-d	Hyperplasia, metaplasia	3,000/1	IRIS (1)	9/17/1998
N-Nitroso-di-n-propylamine	chronic	NA	NA	NA	NA	N/A	N/A	IRIS	
Phenanthrene	chronic	NA	NA	NA	NA	NA	NA	IRIS	9/1/1994
Thallium	chronic	NA	NA	NA	NA	N/A	N/A	IRIS	9/1/1990
Xylenes (total)	chronic	1.0E-01	mg/m^3	2.9E-02	mg/kg-d	Motor coordination	300/1	IRIS (1)	2/21/2003

(1) RfD calculated from RfC based on an adult inhalation rate of 20 m3/d and a body weight of 70 kg (RfD = RfC * 20 m3/d * (1/70 kg))
(2) Elemental Mercury was used as a surrogate.
NA = not available
N/A = not applicable
IRIS = Integrated Risk Information System
HEAST= Health Effects Assessment Summary Tables
NCEA = National Center for Environmental Assessment
RfC = reference concentration
RfD = Reference dose
mg/m^3 = milligrams per cubic meter
mg/kg-day = milligrams per kilogram per day

Table 10
CANCER TOXICITY DATA - ORAL/DERMAL
Niagara Mohawk, a National Grid Company
Hiawatha Former Manufactured Gas Plant

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral Cancer Slope Factor	
	Value	Units		Value	Units		Source	Date
alpha-BHC	6.3E+00	$(mg/kg\text{-}day)^{-1}$	1	6.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	7/1/1993
Arsenic	1.5E+00	$(mg/kg\text{-}day)^{-1}$	1	1.5E+00	$(mg/kg\text{-}day)^{-1}$	A	IRIS	4/10/1998
Benzene	5.5E-02	$(mg/kg\text{-}day)^{-1}$	1	5.5E-02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	1/9/2000
Barium	NA	NA	NA	NA	NA	D	IRIS	3/30/1998
Benzo(a)anthracene	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	NCEA (2)	NA
Benzo(a)pyrene	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS (2)	11/1/1994
Benzo(b)fluoranthene	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	NCEA (2)	NA
Benzo(k)fluoranthene	7.3E-02	$(mg/kg\text{-}day)^{-1}$	1	7.3E-02	$(mg/kg\text{-}day)^{-1}$	B2	NCEA (2)	NA
Chrysene	7.3E-03	$(mg/kg\text{-}day)^{-1}$	1	7.3E-03	$(mg/kg\text{-}day)^{-1}$	B2	NCEA (2)	NA
Cyanide	NA	NA	NA	NA	NA	NA	IRIS	2/1/1996
Dibenzo(a,h)anthracene	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	NCEA (2)	NA
Ethylbenzene	NA	NA	NA	NA	NA	D	IRIS	8/1/1991
Heptachlor	4.5E+00	(mg/kg-day)-1	1	4.5E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	7/1/1993
Indeno(1,2,3-cd)pyrene	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	NCEA (2)	NA
Mercury	NA	NA	NA	NA	NA	C	IRIS (1)	5/1/1995
2-Methylnaphthalene	NA	NA	NA	NA	NA	Data Inadequate	IRIS	12/22/2003
4-Methylphenol	NA	NA	NA	NA	NA	C	IRIS	8/1/1991
Naphthalene	NA	NA	NA	NA	NA	C	IRIS	9/17/1998
N-Nitroso-di-n-propylamine	7.0E+00	$(mg/kg\text{-}day)^{-1}$	1	7.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	7/1/1993
Phenanthrene	NA	NA	NA	NA	NA	Data Inadequate	IRIS	12/22/2003
Thallium	NA	NA	NA	NA	NA	D	IRIS	9/1/1990
Xylenes (total)	NA	NA	NA	NA	NA	D	IRIS	3/1/1991

(1)Mercuric Chloride was used as a surrogate.
NA = not available
N/A = not applicable
IRIS = Integrated Risk Information System
HEAST= Health Effects Assessment Summary Tables
NCEA = National Center for Environmental Assessment
CalEPA = California Environmental Protection Agency
mg/kg-day = milligrams per kilogram per day

USEPA Weight of evidence group:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

(2) This chemical operates with a mutagenic mode of action (USEPA 2005).
Chemical-specific data are not available, thus, USEPA (2005) default age-dependant adjustment factors (ADAF) will be applied to the slope factor as follows:

AGE	AGE ADAF
0-<2	10
2-<16	3
16-<30	1

Table 11
CANCER TOXICITY DATA - INHALATION
Niagara Mohawk, a National Grid Company
Hiawatha Former Manufactured Gas Plant

Chemical of Potential Concern	Unit Risk		Inhalation Cancer Slope Factor		Weight of Evidence/ Cancer Guideline Description	Unit Risk: Inhalation CSF	
	Value	Units	Value	Units		Source	Date
alpha-BHC	1.8E+00	per mg/m^3	6.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	7/1/1993
Arsenic	4.3E+00	per mg/m^3	1.5E+01	$(mg/kg\text{-}day)^{-1}$	A	IRIS	4/10/1998
Benzene	7.8E-03	per mg/m^3	2.9E-02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	1/9/2000
Barium	NA	NA	NA	NA	D	IRIS	3/30/1998
Benzo(a)anthracene	NA	NA	NA	NA	B2	IRIS	11/1/1994
Benzo(a)pyrene	1.1E+00	per mg/m^3	NA	NA	B2	CalEPA (1)	5/1/2009
Benzo(b)fluoranthene	NA	NA	NA	NA	B2	IRIS	11/1/1994
Benzo(k)fluoranthene	NA	NA	NA	NA	B2	IRIS	11/1/1994
Chrysene	NA	NA	NA	NA	B2	IRIS	11/1/1994
Cyanide	NA	NA	NA	NA	NA	IRIS	2/1/1996
Dibenzo(a,h)anthracene	NA	NA	NA	NA	B2	IRIS	11/1/1994
Ethylbenzene	2.5E-03	per mg/m^3	NA	$(mg/kg\text{-}day)^{-1}$	NA	CalEPA	11/14/2007
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	B2	IRIS	11/1/1994
Heptachlor	1.3E+00	per mg/m^3	NA	NA	B2	IRIS	7/1/1993
Mercury	NA	NA	NA	NA	NA	IRIS	5/1/1995
2-Methylnaphthalene	NA	NA	NA	NA	Data Inadequate	IRIS	12/22/2003
4-Methylphenol	NA	NA	NA	NA	C	IRIS	8/1/1991
Naphthalene	3.4E-02	per mg/m^3	NA	NA	A	CalEPA	8/3/2004
N-Nitroso-di-n-propylamine	2.0E+00	per mg/m^3	NA	NA	B2	CalEPA	5/1/2009
Phenanthrene	NA	NA	NA	NA	D	IRIS	12/1/1990
Thallium	NA	NA	NA	NA	D	IRIS	9/1/1990
Xylenes (total)	NA	NA	NA	NA	D	IRIS	3/1/1991

IRIS = Integrated Risk Information System
HEAST= Health Effects Assessment Summary Tables
NCEA = National Center for Environmental Assessment
CalEPA = California Environmental Agency
NA = not available
mg/m^3 = milligrams per cubic meter
mg/kg-day = milligrams per kilogram per day

USEPA Weight of evidence group:
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
E - Evidence of noncarcinogenicity

(1) This chemical operates with a mutagenic mode of action (USEPA 2005).

Chemical-specific data are not available, thus, USEPA (2005) default age-dependant adjustment factors (ADAF) will be applied to the slope factor as follows:

AGE	AGE ADAF
0-<2	10
2-<16	3

Table 12

Potential Chemical, Action and Location – Specific Standards, Criteria and Guidelines

Following Pages 1 thru 3

TABLE 10
POTENTIAL CHEMICAL, ACTION, AND LOCATION-SPECIFIC STANDARDS, CRITERIA, AND GUIDELINES

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Regulation	Citation	Potential Standard (S) or Guidance (G)	Summary of Requirements	Applicability to the Remedial Design/Remedial Action
Chemical-Specific SCGs				
Federal				
Clean Water Act (CWA) - Ambient Water Quality Criteria	40 CFR Part 131; EPA 440/5-86/001 "Quality Criteria for Water - 1986", superceded by EPA-822-R-02-047 "National Recommended Water Quality Criteria: 2002"	S	Criteria for protection of aquatic life and/or human health depending on designated water use.	Not applicable. Previous site investigations support that site MGP-related constituents are not adversely affecting the Barge Canal and Onondaga Lake surface water and sediments.
CWA Section 136	40 CFR 136	G	Identifies guidelines for test procedures for the analysis of pollutants.	
CWA Section 404	33 USC 1344	S	Regulates discharges to surface water or ocean, indirect discharges to POTWs, and discharge of dredged or fill material into waters of the U.S. (including wetlands).	
RCRA-Regulated Levels for Toxic Characteristics Leaching Procedure (TCLP) Constituents	40 CFR Part 261	S	These regulations specify the TCLP constituent levels for identification of hazardous wastes that exhibit the characteristic of toxicity.	Excavated materials may be sampled and analyzed for TCLP constituents prior to disposal to determine if the materials are hazardous based on the characteristic of toxicity.
Universal Treatment Standards/Land Disposal Restrictions (UTS/LDRs)	40 CFR Part 268	S	Identifies hazardous wastes for which land disposal is restricted and provides a set of numerical constituent concentration criteria at which hazardous waste is restricted from land disposal (without treatment).	Applicable if waste is determined to be hazardous and for remedial alternatives involving off-site land disposal.
New York State				
Environmental Remediation Programs	6 NYCRR Part 375	S	Provides an outline for the development and execution of the soil remedial programs. Includes cleanup objective tables.	Applicable for site remediation.
NYSDEC Guidance on the Management of Coal Tar Waste and Coal Tar Contaminated Soils and Sediment from Former Manufactured Gas Plants ("MGPs")	TAGM 4061(2002)	G	Outlines the criteria for conditionally excluding coal tar waste and impacted soil from former MGPs which exhibit the hazardous characteristic of toxicity for benzene (D018) from the hazardous waste requirements of 6 NYCRR Parts 370 - 374 and 376 when destined for thermal treatment.	This guidance will be used as appropriate in the management of MGP-impacted soil and coal tar waste generated during the remedial activities.
NYSDEC Ambient Water Quality Standards and Guidance Values	Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 (6/98)	S	Provides a compilation of ambient water quality standards and guidance values for toxic and non-conventional pollutants for use in the NYSDEC programs.	These standards and guidance values are to be considered in evaluating groundwater and surface water quality.
Technical Guidance for Screening Contaminated Sediments	Division of Fish, Wildlife and Marine Resources (January 1999)	G	Describes methodology for establishing sediment criteria for the purpose of identifying sediment that potentially may impact marine and aquatic ecosystems	Not applicable. Previous site investigations support that site MGP-related constituents are not adversely affecting the Barge Canal and Onondaga Lake sediments.
Identification and Listing of Hazardous Wastes	6 NYCRR Part 371	S	Outlines criteria for determining if a solid waste is a hazardous waste and is subject to regulation under 6 NYCRR Parts 371-376.	Applicable for determining if soil generated during implementation of remedial activities are hazardous wastes. These regulations do not set cleanup standards, but are considered when developing remedial alternatives.
New York State Surface Water and Groundwater Quality Standards	6 NYCRR Part 703	S	Establishes quality standards for surface water and groundwater.	Applicable for assessing groundwater quality at the site. The surface water quality standards are not applicable since previous site investigations concluded that site MGP-related constituents are not adversely affecting the Barge Canal and Onondaga Lake surface water.
Action-Specific SCGs				
Federal				
Occupational Safety and Health Act (OSHA) - General Industry Standards	29 CFR Part 1910	S	These regulations specify the 8-hour time-weighted average concentration for worker exposure to various compounds. Training requirements for workers at hazardous waste operations are specified in 29 CFR 1910.120.	Proper respiratory equipment will be worn if it is not possible to maintain airborne concentrations of MGP-related constituents in the breathing zone below required concentrations. Appropriate training requirements will be met for remedial workers.
OSHA - Safety and Health Standards	29 CFR Part 1926	S	These regulations specify the type of safety equipment and procedures to be followed during site remediation.	Appropriate safety equipment will be utilized on-site and appropriate procedures will be followed during remedial activities.
OSHA - Record-keeping, Reporting and Related Regulations	29 CFR Part 1904	S	These regulations outline record-keeping and reporting requirements for an employer under OSHA.	These regulations apply to the company(s) contracted to install, operate, and maintain remedial actions at hazardous waste sites.
RCRA - Preparedness and Prevention	40 CFR Part 264.30 - 264.31	S	These regulations outline requirements for safety equipment and spill control when treating, handling and/or storing hazardous wastes.	Safety and communication equipment will be utilized at the site as necessary. Local authorities will be familiarized with the site.
RCRA - Contingency Plan and Emergency Procedures	40 CFR Part 264.50 - 264.56	S	Provides requirements for outlining emergency procedures to be used following explosions, fires, etc. when storing hazardous wastes.	Emergency and contingency plans will be developed and implemented during remedial design. Copies of the plan will be kept onsite.
CWA - Discharge to Waters of the U.S., and Section 404	40 CFR Parts 403, and 230 Section 404 (b) (1); 33 USC 1344	S	Establishes site-specific pollutant limitations and performance standards which are designed to protect surface water quality. Types of discharges regulated under CWA include: indirect discharge to a POTW, and discharge of dredged or fill material into U.S. waters.	Would apply for potential discharge of water generated by excavation dewatering and treated in a temporary onsite water treatment system.

TABLE 10
POTENTIAL CHEMICAL, ACTION, AND LOCATION-SPECIFIC STANDARDS, CRITERIA, AND GUIDELINES

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Regulation	Citation	Potential Standard (S) or Guidance (G)	Summary of Requirements	Applicability to the Remedial Design/Remedial Action
CWA Section 401	33 U.S.C. 1341	S	Requires that 401 Water Quality Certification permit be provided to federal permitting agency (USACE) for any activity including, but not limited to, the construction or operation of facilities which may result in any discharge into jurisdictional waters of the U.S. and/or state.	Would apply for potential discharge of water generated by excavation dewatering and treated in a temporary onsite water treatment system.
90 Day Accumulation Rule for Hazardous Waste	40 CFR Part 262.34	S	Allows generators of hazardous waste to store and treat hazardous waste at the generation site for up to 90 days in tanks, containers and containment buildings without having to obtain a RCRA hazardous waste permit.	Potentially applicable to remedial alternatives that involve the storing or treating of hazardous materials onsite.
Rivers and Harbors Act, Sections 9 & 10	33 USC 401 and 403; 33 CFR Parts 320-330	S	Prohibits unauthorized obstruction or alteration of navigable waters of the U.S. (dredging, fill, cofferdams, piers, etc.). Requirements for permits affecting navigable waters of the U.S.	Not applicable. No structures anticipated in navigable waterways under the remedial alternatives.
RCRA - General Standards	40 CFR Part 264.111	S	General performance standards requiring minimization of need for further maintenance and control; minimization or elimination of post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products. Also requires decontamination or disposal of contaminated equipment, structures and soils.	Decontamination actions and facilities will be constructed for remedial activities and disassembled after completion.
Standards Applicable to Transporters of Applicable Hazardous Waste - RCRA Section 3003	40 CFR Parts 170-179, 262, and 263	S	Establishes the responsibility of off-site transporters of hazardous waste in the handling, transportation and management of the waste. Requires manifesting, recordkeeping and immediate action in the event of a discharge.	These requirements will be applicable to any company(s) contracted to transport hazardous material from the site.
United States Department of Transportation (USDOT) Rules for Transportation of Hazardous Materials	49 CFR Parts 107 and 171.1 - 172.558	S	Outlines procedures for the packaging, labeling, manifesting and transporting of hazardous materials.	These requirements will be applicable to any company(s) contracted to transport hazardous material from the site.
Clean Air Act-National Ambient Air Quality Standards	40 CFR Part 50	S	Establishes ambient air quality standards for protection of public health.	Remedial operations will be performed in a manner that minimizes the production of benzene and particulate matter.
USEPA-Administered Permit Program: The Hazardous Waste Permit Program	RCRA Section 3005; 40 CFR Part 270.124	S	Covers the basic permitting, application, monitoring and reporting requirements for off-site hazardous waste management facilities.	Any offsite facility accepting hazardous waste from the site must be properly permitted. Implementation of the site remedy will include consideration of these requirements.
Land Disposal Restrictions	40 CFR Part 368	S	Restricts land disposal of hazardous wastes that exceed specific criteria. Establishes Universal Treatment Standards (UTSs) to which hazardous waste must be treated prior to land disposal.	Excavated soils that display the characteristic of hazardous waste or that are decharacterized after generation must be treated to 90% constituent concentration reduction capped at 10 times the UTS.
RCRA Subtitle C	40 U.S.C. Section 6901 et seq.; 40 CFR Part 268	S	Restricts land disposal of hazardous wastes that exceed specific criteria. Establishes UTSs to which hazardous wastes must be treated prior to land disposal.	Potentially applicable to remedial activities that include disposal of generated waste material from the site.
New York State				
Discharges to Public Waters	New York State Environmental Conservation Law, Section 71-3503	S	Provides that a person who deposits gas tar, or the refuse of a gas house or gas factory, or offal, refuse, or any other noxious, offensive, or poisonous substances into any public waters, or into any sewer or stream running or entering into such public waters, is guilty of a misdemeanor.	During the remedial activities, MGP-impacted materials will not be deposited into public waters or sewers.
NYSDEC's Monitoring Well Decommissioning Guidelines	NPL Site Monitoring Well Decommissioning dated May 1995	G	This guidance presents procedure for abandonment of monitoring wells at remediation sites.	This guidance is applicable for soil or groundwater alternatives that require the decommissioning of monitoring wells onsite.
Guidelines for the Control of Toxic Ambient Air Contaminants	DAR-1 (Air Guide 1)	G	Provides guidance for the control of toxic ambient air contaminants in New York State and outlines the procedures for evaluating sources of air pollution	This guidance may be applicable for soil or groundwater alternatives that result in certain air emissions.
Technical Guidance for Screening Contaminated Sediments	Division of Fish, Wildlife and Marine Resources (January 1999)	G	Describes methodology for establishing sediment criteria for the purpose of identifying sediment that potentially may impact marine and aquatic ecosystems	Not applicable. Previous site investigations support that MGP-related constituents are not adversely affecting the Barge Canal and Onondaga Lake sediments.
Protection of Waters Program	New York State Environmental Conservation Law, Part 608.5	S	Requires that a permit be obtained for any excavation or placement of fill within navigable waters of the state, below the mean high water level.	Not applicable. Previous site investigations support that MGP-related constituents are not adversely affecting the Barge Canal and Onondaga Lake sediments.
New York Hazardous Waste Management System - General	6 NYCRR Part 370	S	Provides definitions of terms and general instructions for the Part 370 series of hazardous waste management.	Hazardous waste is to be managed according to this regulation.
Identification and Listing of Hazardous Wastes	6 NYCRR Part 371	S	Outlines criteria for determining if a solid waste is a hazardous waste and is subject to regulation under 6 NYCRR Parts 371-376.	Applicable for determining if solid waste generated during implementation of remedial activities are hazardous wastes. These regulations do not set cleanup standards, but are considered when developing remedial alternatives.
Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities	6 NYCRR Part 372	S	Provides guidelines relating to the use of the manifest system and its recordkeeping requirements. It applies to generators, transporters and facilities in New York State.	This regulation will be applicable to any company(s) contracted to do treatment work at the site or to transport or manage hazardous material generated at the site.
New York Regulations for Transportation of Hazardous Waste	6 NYCRR Part 372.3 a-d	S	Outlines procedures for the packaging, labeling, manifesting and transporting of hazardous waste.	These requirements will be applicable to any company(s) contracted to transport hazardous material from the site.

TABLE 10
POTENTIAL CHEMICAL, ACTION, AND LOCATION-SPECIFIC STANDARDS, CRITERIA, AND GUIDELINES

NATIONAL GRID
HIAWATHA BOULEVARD FORMER MGP
FEASIBILITY STUDY REPORT

Regulation	Citation	Potential Standard (S) or Guidance (G)	Summary of Requirements	Applicability to the Remedial Design/Remedial Action
Waste Transporter Permits	6 NYCRR Part 364	S	Governs the collection, transport and delivery of regulated waste within New York State.	Properly permitted haulers will be used if any waste materials are transported offsite.
NYSDEC Technical and Administrative Guidance Memorandums (TAGMs)	NYSDEC TAGMs	G	TAGMs are NYSDEC guidance that are to be considered during the remedial process.	Appropriate TAGMs will be considered during the remedial process.
New York Regulations for Hazardous Waste Management Facilities	6 NYCRR Part 373.1.1 - 373.1.8	S	Provides requirements and procedures for obtaining a permit to operate a hazardous waste treatment, storage and disposal facility. Also lists contents and conditions of permits.	Any off-site facility accepting waste from the site must be properly permitted.
Land Disposal of a Hazardous Waste	6 NYCRR Part 376	S	Restricts land disposal of hazardous wastes that exceed specific criteria.	New York defers to USEPA for UTS/LDR regulations.
NYSDEC Guidance on the Management of Coal Tar Waste and Coal Tar Contaminated Soils and Sediment from Former Manufactured Gas Plants	TAGM 4061(2002)	G	Outlines the criteria for conditionally excluding coal tar waste and impacted soils from former MGPs which exhibit the hazardous characteristic of toxicity for benzene (D018) from the hazardous waste requirements of 6 NYCRR Parts 370 - 374 and 376 when destined for thermal treatment.	This guidance will be used as appropriate in the management of MGP-impacted soil and coal tar waste generated during the remedial activities.
National Pollutant Discharge Elimination System (NPDES) Program Requirements, Administered Under New York State Pollution Discharge Elimination System (SPDES)	40 CFR Parts 122 Subpart B, 125, 301, 303, and 307 (Administered under 6 NYCRR 750-758)	S	Establishes permitting requirements for point source discharges; regulates discharge of water into navigable waters including the quantity and quality of discharge.	Remedial activities may involve treatment/disposal of water. If so, water generated at the site will be managed in accordance with NYSDEC SPDES permit requirements.
Location-Specific SCGs				
Federal				
National Environmental Policy Act Executive Orders 11988 and 11990	40 CFR 6.302; 40 CFR Part 6, Appendix A	S	Requires federal agencies, where possible, to avoid or minimize adverse impact of federal actions upon wetlands/floodplains and enhance natural values of such. Establishes the "no-net-loss" of waters/wetland area and/or function policy.	To be considered if remedial activities are conducted within the floodplain or wetlands.
CWA Section 404	33 USC 1344, Section 404; 33 CFR Parts 320-330; 40 CFR Part 230	S	Discharge of dredge or fill materials into waters of the U.S., including wetlands, are regulated by the USACE.	Not applicable. No dredging or filling proposed under the remedial alternatives.
Fish and Wildlife Coordination Act	16 USC 661; 40 CFR 6.302	S	Actions must be taken to protect fish or wildlife when diverting, channeling or otherwise modifying a stream or river.	Not applicable. No diversions or channeling proposed under the remedial alternatives.
Historical and Archaeological Data Preservation Act	16 USC 469a-1	S	Provides for the preservation of historical and archaeological data that might otherwise be lost as the result of alteration of the terrain.	Not applicable. The National Register of Historic Places website indicated no records present for historical sites within approximately 1.0 miles of the Hiawatha Boulevard site.
National Historic and Historical Preservation Act	16 USC 470; 36 CFR Part 65; 36 CFR Part 800	S	Requirements for the preservation of historic properties.	Not applicable. The National Register of Historic Places website indicated no records present for historical sites within approximately 1.0 miles of the Hiawatha Boulevard site.
Rivers and Harbors Act	33 USC 401/403	S	Prohibits unauthorized obstruction or alteration of navigable waters of the U.S. (dredging, fill, cofferdams, piers, etc.). Requirement for permits affecting navigable waters of the U.S.	Not applicable. No dredging or filling proposed under the remedial alternatives.
Hazardous Waste Facility Located on a Floodplain	40 CFR Part 264.18(b)	S	Requirements for a treatment, storage and disposal (TSD) facility built within a 100-year floodplain.	Hazardous waste TSD activities (if any) will be designed to comply with applicable requirements cited in this regulation.
Endangered Species Act	16 USC 1531 et seq.; 50 CFR Part 200; 50 CFR Part 402	S	Requires federal agencies to confirm that the continued existence of any endangered or threatened species and their habitat will not be jeopardized by a site action.	Not applicable as no endangered species were identified during the previous site investigations.
Floodplains Management and Wetlands Protection	40 CFR 6 Appendix A	S	Activities taking place within floodplains and/or wetlands must be conducted to avoid adverse impacts and preserve beneficial value. Procedures for floodplain management and wetlands protection provided.	Regulations pertaining to wetlands not applicable. No remedial activities would be performed in wetlands. Remedial activities within the floodplain will be performed in accordance with this regulation.
New York State				
New York State Floodplain Management Development Permits	6 NYCRR Part 500	S	Provides conditions necessitating NYSDEC permits and provides definitions and procedures for activities conducted within floodplains.	Not applicable. Previous site investigations support that site MGP-related constituents are not adversely affecting the Barge Canal and Onondaga Lake sediments.
New York State Freshwater Wetlands Act	ECL Article 24 and 71; 6 NYCRR Parts 662-665	S	Activities in wetlands areas must be conducted to preserve and protect wetlands.	Not applicable. There are no wetlands identified within the site during previous investigations.
New York State Parks, Recreation, and Historic Preservation Law	New York Executive Law Article 14;	S	Requirements for the preservation of historic properties.	Not applicable. The National Register of Historic Places website indicated no records present for historical sites in the immediate vicinity of the Hiawatha Boulevard site.
Endangered & Threatened Species of Fish and Wildlife	6 NYCRR Part 182	S	Identifies endangered and threatened species of fish and wildlife in New York.	Not applicable as no endangered species were identified during the site investigations.
New York State Coastal Management Program	Significant Fish and Wildlife Habitat Policies 7 and 8	S	Requires that a Consistency Determination be obtained for activities proposed within Significant Fish and Wildlife Habitats	Not applicable as significant habitats for fish and wildlife were not identified during the site investigations.
Floodplain Management Criteria for State Projects	6 NYCRR Part 502	S	Establishes floodplain management practices for projects involving state-owned and state-financed facilities.	Activities located in the floodplain areas will be performed in accordance with this regulation.
Local				
Local Building Permits	N/A	S	Local authorities may require a building permit for any permanent or semi-permanent structure, such as an on-site water treatment system building or a retaining wall.	Substantive provisions are potentially applicable to remedial activities that require construction of permanent or semi-permanent structures.

Table 13: Remedial Alternative Costs

Subsurface Soil Alternative	Capital Cost ($)	Annual Cost ($)	Present-Worth Cost ($)
Alternative SM1 - No Further Action	$0	$0	$0
Alternative SM3- In-Situ Soil Stabilization and ICs	$6,490,000	$16,000	$6,730,000
Alternative SM4- Focused Soil Excavation and ICs	$18,500,000	$16,000	$18,800,000
Alternative SM5- Soil Excavation to SCOs and ICs	$54,500,000	$16,000	$54,700,000
Groundwater Alternative	**Capital Cost ($)**	**Annual Cost ($)**	**Present-Worth Cost ($)**
Alternative GW1- No Further Action	$0	$0	$0
Alternative GW2- Institutional Controls (ICs)	$97,000	$90,000-$52,000	$1,060,000
Alternative GW3- Enhanced Bioremediation and ICs	$1,300,000	$191,000 $135,000	$3,700,000
Proposed Remedy	**Capital Cost ($)**	**Annual Cost ($)**	**Present-Worth Cost ($)**
Alternative SM3- In-Situ Soil Stabilization and ICs and	$6,490,000	$16,000	$6,700,000
Alternative GW3- Enhanced Bioremediation and ICs	$1,340,000	$191,000 $135,000	$3,700,000

APPENDIX III

Administrative Record

Administrative Record

NM – Syracuse, Hiawatha Boulevard
Former MGP Site
Syracuse, Onondaga County New York
Site No. 7-34-059

1. Preliminary Subsurface Investigation for Proposed Onondaga County STP (O'Brien & Gere Engineers, Inc. 1971 and 1972)

2. Niagara Mohawk Substrate Sampling and Analysis (Niagara Mohawk Power Corp. 1985)

3. USEPA Preliminary Site Assessment (PSA), (NUS Corporation 1987)

4. Order on Consent, Index No. D0-0001-9210 between NYSDEC and Niagara Mohawk Power Corp., executed on November 16, 1992.

5. Sediment Sampling and Testing in the Barge Canal (USACE 1994)

6. PSA/IRM Work Plan (June 1995)

7. Preliminary Site Assessment/Interim Remedial Measures (PSA/IRM) Study (ARCADIS between 1995 and 1998)

8. Remedial Investigation and Feasibility Study Work Plan (ARCADIS March 29, 2000)

9. Pathway Analysis Report (ARCADIS June 23, 2000)

10. Preliminary Soils Data Report (ARCADIS September 2000)

11. Soil Excavation and Removal IRM Site Management Plan (Niagara Mohawk Power Corp March 16, 2001)

12. Fact Sheet, July 2001, announcing start of the Soil Removal IRM

13. Soil Removal IRM In-Situ Waste Profiling (ARCADIS August 2001)

14. Construction Completion Report for Soil Removal IRM (ARCADIS October 2002)

15. Order on Consent, Index No. A4-0473-0000, between NYSDEC and Niagara Mohawk Power Corp., executed on October 23, 2003.

16. Remedial Investigation (RI) Report (ARCADIS July 2003)

17. Supplemental Remedial Investigation (SRI) Report (ARCADIS October 2006)

18. Pre-FS Additional Investigation Report (ARCADIS March 2008)

19. Groundwater Monitoring Summary & Mass Flux Evaluation Report (ARCADIS March 2008)

20. Soil Vapor Investigation (SVI) Report (ARCADIS May 2008)

21. Human Health Risk Assessment Report (USEPA September 2009)

22. Feasibility Study Report (ARCADIS October 2009)

23. Email from NYSDEC to Onondaga Nation providing EPA's HHRA for review and comment, December 14, 2009.

24. Email – NYSDEC to NYSDOH provided EPA's HHRA for review and comment, December 31, 2009.

25. Email from NYSDEC to Onondaga Nation providing Draft PRAP for review and comment, January 15, 2010.

26. Email from Onondaga Nation to NYSDEC HHRA review comments, January 27, 2010.

27. Letter – EPA PRAP comments, February 16, 2010.

28. Email from Onondaga Nation to NYSDEC PRAP review comments, February 17, 2010.

29. Proposed Remedial Action Plan for the Hiawatha Blvd. former MGP Site (NYSDEC February 2010)

30. Letter – NYSDOH PRAP concurrence, February 23, 2010.

31. Letter - NYSDEC to Onondaga Nation response to PRAP comments, March 3, 2010.

32. Public Notice of Comment Period and Public Meeting, published in the Post Standard, March 3, 2010

33. Letter – EPA Subsite Determination, March 11, 2010.

34. Fact Sheet, March 2010, announcing PRAP public meeting comment period.

35. Documentation and Transcript of March 18, 2010 Public Meeting (Attached to the Record of Decision as Appendix).

36. Letter – NYSDOH ROD Concurrence, March 31, 2010.

APPENDIX IV

RESPONSIVENESS SUMMARY

NIAGARA MOHAWK (NM) - HIAWATHA BOULEVARD - SYRACUSE
FORMER MGP SITE
SUBSITE OF ONONDAGA LAKE SITE
CITY OF SYRACUSE, ONONDAGA COUNTY
RESPONSIVENESS SUMMARY

Table of Contents

Please note that a list of acronyms/abbreviations are contained on page xv of this Record of Decision.

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NIAGARA MOHAWK (NM) - HIAWATHA BOULEVARD - SYRACUSE FORMER MGP SITE SUBSITE OF ONONDAGA LAKE SITE CITY OF SYRACUSE, ONONDAGA COUNTY REMEDIAL INVESTIGATION/FEASIBILITY STUDY AND PROPOSED PLAN RESPONSIVENESS SUMMARY

INTRODUCTION

This Responsiveness Summary (RS) provides a summary of comments and concerns received during the public comment period related to the NM - Hiawatha Boulevard Former MGP Site remedial investigation and feasibility study (RI/FS) reports and Proposed Remedial Action Plan (PRAP), and provides responses of the New York State Department of Environmental Conservation (NYSDEC) and United States Environmental Protection Agency (EPA) to those comments and concerns. The RI/FS reports (ARCADIS 2000-2003, 2009) describe the nature and extent of the contamination at the site and evaluate remedial alternatives to address this contamination. The Proposed Remedial Action Plan (NYSDEC 2010) identifies NYSDEC and EPA's preferred remedy and the basis for that preference.

Public involvement in the review of Proposed Plans is stipulated in Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, and Sections 300.430(f)(3)(i)(F) and 300.430(f)(5)(iii)(B) of the National Oil and Hazardous Substances Pollution Contingency Plan. These regulations provide for active solicitation of public comment.

All public comments received are addressed in this RS, which was prepared following guidance provided by EPA in EPA 540-R-92-009 and OSWER[1] Directive 9836.0-1A. No public comments were received concerning NYSDEC and EPA's final decision in the selection of a remedy to address the contamination at the NM - Hiawatha Boulevard Former MGP Site .

PUBLIC REVIEW

NYSDEC and EPA rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the PRAP for the NM - Hiawatha Boulevard Former MGP Site was made available to the public on February 25, 2010. A fact sheet was released with the PRAP and both documents are available at NYSDEC's website (http://www.dec.ny.gov/chemical/37558.html).

The complete Administrative Record file, which contains the information (including the RI and Supplemental RI, Human Health Risk Assessment [HHRA] and FS) upon which the selection of the remedy has been based, is available at the locations listed in the text box below.

[1]Office of Solid Waste and Emergency Response.

Information Repositories for the NM - Hiawatha Boulevard Former MGP Site Administrative Record

NYSDEC, Region 7 Office
615 Erie Boulevard West
Syracuse, NY 13204-2400
(315) 426-7400
Hours: M – F, 8:30 a.m. – 4:45 p.m.
Please call for an appointment

Onondaga County Public Library
447 South Salina Street
Syracuse, NY 13201
Hours: M, Th, F, Sat, 11:00 a.m. – 4:50 p.m.;
Tu, W, 11:00 a.m. – 7:20 p.m.
Phone: (315) 435-1800

NYSDEC Central Office
625 Broadway
Albany, NY 12233-7014
(518) 402-9662
Hours: M – F, 8:30 a.m. – 4:45 p.m.
Please call for an appointment

PUBLIC COMMENT PERIOD AND PUBLIC MEETING

The public comment period is intended to gather information about the views of the public regarding both the remedial alternatives and general concerns about the site. A notice of the commencement of the public comment period, the public meeting date, the preferred remedy, contact information, and the availability of above-referenced documents was provided in a fact sheet distributed to the public on February 25, 2010 and published in the *Syracuse Post-Standard* on March 3, 2010.

The public comment period for the NM - Hiawatha Boulevard Former MGP Site PRAP commenced on February 25, 2010 and continued until March 27, 2010. During that period, a public meeting was held on March 18, 2010 at the NYSDEC Region 7 Office in Syracuse, New York. Exactly 12 people, including one resident, local business people and state and federal government officials, attended the public meeting. A question-and-answer session followed the formal presentation at the public meeting. A complete transcript of the public meeting can be found in Appendix VI of this ROD.

RECEIPT AND IDENTIFICATION OF COMMENTS

No public comments on the RI/FS and the PRAP were received in any form, including:

- No written comments submitted to NYSDEC via e-mail.
- No written comments mailed to NYSDEC.
- No oral comments made at the public meeting.

APPENDIX V

TRANSCRIPT OF MARCH 18, 2010 PUBLIC MEETING

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

REMEDY PROPOSED FOR

FORMER MANUFACTURED GAS PLANT SITE

Syracuse - Hiawatha Boulevard

Site #734059

NYSDEC Region 7 PUBLIC MEETING in the above matter conducted at the Region 7 Office Building 615 Erie Boulevard West, Syracuse, New York before, JOHN F. DRURY, Court Reporter, CSR, RPR, Notary Public in and for the State of New York, on March 18, 2010 at 7:00 p.m.

A p p e a r a n c e s:

FROM THE NYSDEC:
ANTHONY KARWIEL, Project Manager Envl Engr
GEORGE W. HEITZMAN, Section Chief, P.E.
DIANE CARLTON, Citizen Participation Spclst

FROM THE NYSDOH:
RICHARD JONES

ATTORNEYS FROM HISCOCK & BARCLAY:
MATTHEW T. KERWIN, ESQ.
THOMAS CARNRIKE, ESQ.

INDEX TO SPEAKERS

MS. CARLTON: Want to welcome everybody to DEC Region 7 in Syracuse, I'm Diane Carlton, I'm a Citizen Participation Specialist here for the region. And of course you all know Tony Karwiel sitting here, downstairs is George Heitzman he'll be coming back in 5 or 10 minutes, the door is locked so we have someone standing there kind of opening the door for anyone that comes and goes.

As you know our mission here tonight is to talk about the proposed remedy for the Manufactured Gas Plant over at Hiawatha Boulevard. We've got a short power point presentation and then we will take any questions, hopefully someone will wander in late so we'll have something to report. With that I'll turn it over to Tony.

MR. KARWIEL: If you guys don't mind why don't we go around the room and introduce yourselves. I'm again, Tony Karwiel DEC project manager for this

project.

RICHARD JONES: Dick Jones, Department of Health.

JOHN BRUSSEL: John Brussel with Arcadis consultant to National Grid.

MATTHEW HYSELL: Matt Hysell with Arcadis.

PAT McGUIRE: Pat McGuire with Arcadis.

MR. CLALO (phonetic) Patrick Clalo, just a citizen.

CHUCK WILLARD: Chuck Willard with National Grid.

JAMES NUSS: James Nuss with Arcadis.

MARK GRANGER: Mark Granger, US EPA.

TOM CARNRIKE: Tom Carnrike with

Hiscock and Barclay.

MATTHEW KERWIN: Matt Kerwin, Hiscock and Barclay.

JIM MORGAN: Jim Morgan, National Grid.

BRIAN STERNS: Brian Sterns, National Grid.

MR. KARWIEL: And George is Section

Chief for the MGP Section at DEC, one of the two MGP sections we have, and as Diane said he'll be coming back up as soon as the maddening crowd stops wandering in. He wants to get going so we'll go ahead and start I guess. And I've got a fairly short presentation I'll go through it quickly. If anybody has any burning questions, most of you guys already know everything that's in here, but if anybody has any questions stop me, shouldn't be an issue. And I guess we'll just get right into it.

Okay, well goals of tonight's meeting, we'll discuss the general site background, review remedial investigation findings, we'll talk about the feasibility study and present the proposed remedy that we have established so far, which has taken a lot of work between National Grid and their consultant Arcadis, and EPA has been involved with it and the DEC. We'll talk about the proposed remedy and then

we'll take questions and comments at the end. We're just going to go through this, this would mean more if there was more general public but we do have one, so we'll go through it.

The process normally is basically how it's stated up there, we investigate the site. Once we have all the information that we need to, that we're comfortable that the site has been characterized appropriately we'll evaluate our alternatives, and then we have meetings like this where we go to the general public and get input from them because their input counts. And you know, it may even change our decision. Then after that we'll select a remedy and then we'll go through the actual process of starting the remedy, design and construction. And then finally we'll go through and do our monitoring and maintaining of that remedy.

This is an aerial photo of the site

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and the surrounding areas. This is Carousel Mall, Hiawatha Boulevard, this is the approximate boundary of the former MGP site, which is also shared by the Metro Sewage Treatment Plant. And as you can see all these buildings and structures are all part of the entire Metro Sewage Treatment Plant.

Okay, I want to just talk about MGP in general. First of all MGP stands for Manufactured Gas Plants. And there is about 235, and I think there is a little more than that, if anybody wants to pipe in, we keep finding these occasionally, you know, as we move on with our investigations, and they're all over the state of New York, and with the concentration in the New York City area. And we have worked with the utilities on several of these to get them to a point where they've been investigated, and we have come up with the appropriate remedies and have gone a long way to remedy these conditions that we have at

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these different sites.

This is a typical manufactured gas plant. This is, you know, some of the historic features that the old plants had. And just to go through quickly, the way they actually produced this gas which was used, by the way, for lighting our homes and heating and cooking before electricity came into play, what they used to do is they actually took coal, and they heated coal and retort ovens and they limited the amount of oxygen that was introduced. And they did this to drive off gases which they actually condensed and scrubbed and purified. And then were actually held in these distribution holders and then distributed to the homes and communities.

In the beginning it was mostly a coal type starting for creating the gas.

Then as we moved on with making manufactured gas it turned into several different types of fuel sources rather than just coal. For the most part I

think coal was used here early on and then they switched to carbureted water gas later on when the facility was upgraded.

Just want to talk generally about the background of the site. Now the salt industry as well as the chemical industry and just urban development in the transportation corridors have changed the whole lakefront as we know it now. There have been so many changes and as a matter of fact in the early 1800s they actually lowered the level of the lake 10 feet to install or work on the Erie Canal. And I think it was in 1850 they actually brought the lake level back up to the level it is now.

And several things have happened to this area around the lake and this site in particular. As you can see up there it was a fertilizer company that was actually called the Syracuse Reduction and Manufacturing Company, and that was on the site around 1911. And then in

the mid 1920s the MGP started operation, and that ran to late 1950s. From 1924 to 1937 it was run by Syracuse Lighting. In 1937 it switched to the Consolidated Niagara Hudson, I believe, a public service. And then from 1937 to 1950 it was the Central New York Power Company. And 1950s to '58 was Niagara Mohawk, now known as National Grid. And if I got any of that wrong guys, pipe in please. And now it's still being oversaw by National Grid.

And let's see, it's a four acre property. As I showed you earlier in that photo, that aerial photo, basically that whole former MGP site is now a working sewage treatment plant. And most of it is, most of the property that you see there is taken up by the plant, a little is left it may be used for future upgrades in the Metropolitan Sewage Treatment Plant.

This is a figure showing the former MGP site and shows the former MGP

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Karwiel

structures. You can see the purple structures throughout the site. And this also is an overlay showing what is there now. The purple is basically the former structures and everything that you can see that's kind of dark in color is what is a treatment plant site right now.

I think this is an older photo but in this area, and I'll talk about this, this was an IRM that was done within the last few years, which is now the ammonia phosphorus removal plant. It was an upgrade to the system back in '03, I believe. I'll get into that in the next slide, but just wanted to give you an idea of what we're looking at, where the old MGP structures were in relation to the Barge Canal, which is here, and Onondaga Lake which is out there.

I just want to talk about coal tar. That's one of the byproducts of the whole MGP process, and it's much like your driveway sealer. And it has a wide

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Karwiel

viscosity range, like I said toothpaste to water. It basically smells a lot like driveway sealer as well. Slightly denser than water, meaning that it's a sinker, it will sink and flow to the bottom of the ground- water and would to any lens of material that changes significantly enough to create a pancake effect in the product that will sink, basically a confining layer. It contains benzene and PAH's, which are also similar, very similar to the constituents of gasoline and fuel oil, just want to make that distinction, so it's really not much different than that.

Yes, they can contaminate ground- water for short distances. And BTEX, which is actually benzene, toluene ethylbenzene and xylene, which are volatile organic compounds, are very amenable to biodegradation, meaning they'll break down through the normal occurring bacteria that are in the ground.

This is a slide showing actual pictures of the coal tar that kind of pooled up on this confining layer, this clay layer. And you'll see that right along here there is some kind of a granular lens that shows some of the products leaking out and actually running on to this clay surface and sort of pooling up there. There is a good picture of it right there, kind of hitting the water and kind of running over and just pooling up in that area.

And this is, this here isn't exactly what we've seen at this site, this is just I wanted to show you was a good picture, a good example of what the NAPL looks like, the coal tar looks like when it's found in the soils. This is a split sample where you can see the different barbs, sand barbs that actually have the coal tar in them. And that's the way we find it a lot of times when we're doing our investigations.

You'll see it in either small veins between the different layers of soil or it can be larger but it's different from site to site. But on this site we never saw any concentrated or very significant thick lens of material. It was always kind of a thin lens of material at various locations within the soil unit.

This is another picture, kind of a close up showing basically it was probably a sand lens within this clump of clay that the NAPL had pocketed in.

Okay, this is what I want to talk a little bit about what our remedial investigation found. And you know, as I said, the water table is generally between 5 and 10 feet. The groundwater patterns were generally north and west, meaning towards the lake. And there was a vector towards the Barge Canal coming off the site. And there was, I'll show you on a later slide, that the contaminated soils remain in the east and northeast portion of the project site, and that is close to Hiawatha Boulevard and also in that corner close to the intersection of Hiawatha Blvd. and the Barge Canal but I'll show you a slide when we get to it that kind of illustrates that better.

Again, the coal tar was found in lenses in the Solvay waste. That's one of the big things with this site. And the history of this site is during that whole period of when the Solvay Process was going on, this site was used almost as a fill area for that waste product. This was all low lying area out where the site is prior to the sewage treatment plant and the MGP being situated there was actually a part of a reclaimed land effort where they filled in these areas, they drained the swampy areas and filled them with Solvay waste and other materials and then were able to reuse this property for different situations as I went through earlier, the fertilizer plant, and it was an MGP, and

now it still is the Metro Wastewater Treatment Plant.

The coal tar not found in any wells in any of the latest sampling rounds. Early on in our investigation we did find there was a few different wells and soil borings that did show some NAPL, some NAPL lenses. And we've done a lot of investigation in the site. And our latest round showed no coal tar at all in any of the monitoring wells. And that's partly because we did this giant IRM where we removed 110,000 tons of contaminated soil and 283 million gallons of groundwater, impacted ground-water we removed during this IRM we did. And we think we can attribute a lot of this reading that there is NAPL not showing up in these wells to that effort.

Now we're talking about one or more BTEX compounds were found in ground where samples were collected, from 16 to 20 wells, exceeding groundwater standards. So what that says is we have monitoring

wells that do show low levels and some moderate levels of contamination in the dissolved phase of the groundwater at the site. Also naphthalene which is a semi volatile was found in 8 of the 20 wells exceeding groundwater standards.

This slide is showing you early on when the Metro plant did an expansion, this was a 1970s expansion, this area here was dug out to install these clarifiers and other aspects of the treatment plant. So you know, I think upwards of 20 to 25 feet were removed so that they can install the foundations for these different aeration facilities.

This here area is the area of our IRM that we conducted, and as I said where we excavated 110,000 tons of contaminated soil and 283 million gallons of groundwater were removed.

Now as you can see these green stars are the borings without NAPL. There is several throughout the site, and especially in our IRM, that we can show

now that we have done a decent job about excavating contaminated material. These red stars, and as I said earlier the intersection of Hiawatha and the Barge Canal that northeast corner of the property where we still have issues, and that's why we're here tonight to discuss what we want to do for a remedy for this left over contamination.

Now, as part of the process that we slowed you that slide earlier, we take all the investigations that we've done, and we've done quite a few on the site, and we developed a remedial alternative. As a part of evaluating those alternatives we come out and have these public meetings to discuss with the general public on what the right route is, we talk to the other partners in this process, meaning the EPA and National Grid and their consultants and the Health Department. And once we take a look at this and we get our input from all these various people we come up with

a recommended preferred remedy. Once we get to that point we're able to set this in front of the general public and get input from them.

Okay, these are the soil alternatives that we evaluated. Now first one that we referred to is SM 1 is no action. We have to evaluate that so that we can do comparisons to the other alternatives. So it's not like when we throw that up there that we're not going to do anything but we need to do that for comparisons.

SM 2 is institutional controls. Now institutional controls I'll talk about it in the next slide, but there are things that we do that are I guess non-intrusive that we can control what is done at the site and therefore control any exposure to contaminants to any general public.

SM 3 is the In Situ Solidification source area. You'll see that's part of our recommended remedy. And what we do with In Situ Solidification and I'll get

into it a little further on in the presentation, but we actually solidify the source area so that groundwater flow is minimized through that area, and thereby halting the movement of contamination through groundwater.

SM 4 was a focused excavation of a source area. Very similar to the same areas that we're talking about in SM 3 for the In Situ solidification.

And SM 5 is the excavation of all soils to the industrial soil cleanup objectives. And that's a much larger area and very expensive and we'll look at that as well.

Here is just some of the cost break-down. Obviously no action: Zero dollars.

Institutional Controls: Fairly expensive, but not enough for the DEC to allow that to be the only remedial effort on the site.

The in situ stabilization of the source is 6.7 million. And when the DEC looks at all of these possible remedies

we have to take into account several different criteria to make the best decision. And you know, to be frank one of them is cost, because we want to be cost effective in that decision. And that's one of the reasons why we did go with this as one of our recommended or proposed I should say, proposed remedial efforts. And you know, as I said we'll get on that a little bit further in the program.

The Source Area Excavation, obviously three times the cost of the ISS source area. And to be frank, even at that level of remedy there is still going to be something, residual contaminants left in the site. And that in itself, you know, would not get us to the point where we want to be with this remedy.

SM 5, the Excavation to Industrial Soil Standards, a whopping $54 million. And it's a very large excavation with many headaches involved as far as underground utilities and other reasons

why it just would be not only costly but difficult to implement.

Okay, I want to talk about institutional controls. First of all, we come up with environmental easement placed on the property and that would be an agreement between the Department, National Grid and also the county, Onondaga County that we would restrict land use and prohibit groundwater use. And this would require periodic certification of controls.

But also we would have along with this environmental easement would be a site management plan, which would govern what was done at the site, who does any work on the site, and that the Department and National Grid is aware of anything that goes on with any potential excavations or any work in the future or any planned upgrades or things like that we'd have to be notified before anything like that would happen. So that we can all work together to make sure any work

that is done is done appropriately.

MR. HEITZMAN: It's important to note that institutional controls are a component of all of the remedies except for No Action. It's not just SM 2 which relies entirely on institu- tional controls. The solidification remedy would require institutional controls to preserve the solidified waste material. The partial source excavation remedy would require institutional controls because there is residual contamination remaining that has to be properly managed. And even under the excavation to industrial cleanup levels it would require an institutional control to ensure that the property remained industrial in use.

MR. KARWIEL: What is In Situ Solidification? All right, there is a couple of ways we do this. But basically what it is is we mix the soil that is on the site with cement and bentonite, the clay is a good general

term for it. And we do that, we mix that up into, with an auger or backhoe and I'll show you pictures of that. But we come up with a recipe of this soil that's there, the groundwater that will be in the formation, and the cement and clay. So that we can get the proper psi strength and the ability to keep groundwater from migrating through it. And also as a part of this process we can chemically bind up some of the contaminants.

But I want to make sure you understand that it is solidification that we're talking about here. Because ISS also includes stabilization but we're not stabilizing the soil, we're just solidifying.

And in the design phase there will be bench tests and there will be grounded samples and make a determination on what the best recipe for this in situ stabilization will need to keep expressive strength up to where we need

it for if any additional structures will be built on it. Either have it strong enough to withhold the weight of a structure or make it soft enough so that it can be excavated out readily so that if the county wanted to do an upgrade and put a building there they could do that fairly easily.

This is just a picture and I think this might be NYAK. On the left side you'll see I think it's an 8 or 10 foot auger. This auger is actually, it's augered into the ground and I think they do three different runs up and down with the auger. And the mixture of cement and bentonite or in this case clay, is actually shot through the auger at the same time it's turning and mixing in the soil. Also this excavator is here to pull out any obstructions that you may have, like a piece of lumber or a large rock or something like that. It's amazing how big this machinery is and how little a piece of debris that is in

there can actually stop this thing up. So these things always work in tandem to make sure the whole process works appropriately.

This is another shot, this is definitely a NYAK site and this is showing the auger range. And actually the auger is in the ground right there, and I don't know if you can make out the depth, but we've gone 40, 50, 60 feet into the ground with this method. And so far we've had good results with this remedy and we hope to continue with that.

This is another method of actually mixing the soil with a backhoe, kind of mechanical mixing. And you can see that this guy here, I don't know if I should point this out but he's standing on the hose and the mixture is being pumped in from the surface there while he's actually digging the soil with the excavator. That's just one of the two methods that we have used at the DEC for

in situ solidification.

All right, now let me go through the groundwater alternatives that are evaluated. Again, we have to go and show you No Action as a comparison basis. The second alternative GW 2, institutional controls and monitoring. As George said earlier, all of our alternatives have institutional controls and monitoring and that this just was one step, we didn't feel was enough of a step.

And we asked for the enhanced bioremediation, which is GW 3, and we can talk about that further. Just to show you some of the costs involved. No Action: Again zero dollars.

Institutional controls and monitoring: Relatively cheap, relatively speaking, $1.6 million dollars -- $1.06 million.

And enhanced bioremediation: Enhanced bioremediation what we're doing with that is there are several methods

to actually do this. You can enhance it by injecting oxygen or nutrients. One of the methods that we are talking about doing here is actually introducing oxygen, ORC socks into the soil formation -- we can talk about that a little bit more.

MR. HEITZMAN: Can you explain the cost and methods of present value?

MR. KARWIEL: Yes, this is a long term solution, this groundwater alternative, especially the enhanced bioremediation. We'll be injecting over a period of time, several years, so that's where the costs start building up. We install these injection points along the edge of the Barge Canal and out along the, near to the lake shore-line. And we'll be doing this at various times, not only just the injection but the installation of the ORC material. So along with that there will be groundwater monitoring, and just checking to see how we're doing to make

sure that we get a good handle on what we put in the ground and make sure it's actually doing something.

So that 3.7 million seems like a lot but it's over, it's actually over a 30 year period of doing the injection and monitoring and getting a good handle on what's happening with the concentrations in the groundwater.

MR. HEITZMAN: Same with GW 2, that's the present value of the 30 years, it's not a million dollars outlay right away.

MR. KARWIEL: Okay, what is Enhanced

Bioremediation? And this is all probably old hat for all you guys but there is naturally occurring organisms in the subsurface that will break down petroleum type products, MGP products. And what we do with the enhanced bioremediation is we help it along a little by the injection of oxygen and/or nutrients. And we just did it, basically if you will, an algae bloom or

growth of these natural occurring organisms and they start feeding off the SVOCs and VOCs that are in the subsurface, in the groundwater.

In this site we have some issues because we have natural occurring high salinity. And because of all the Solvay waste that was used to backfill this area we have a high pH. So those two factors are going to complicate our effort but we have a huge staff of experts that are going to help us to get around that. And they've got lots of experience, and everything that we have seen so far is pointing that this will work properly.

Okay, part of the threshold criteria. Obviously it has to be protected of human health and environment. And we have to comply with the state standards and criteria, which this has all been established and presented in our PRAP. And it will again be presented in the ROD.

MR. HEITZMAN: I guess we should add that since the site was listed as an NPL subsite, it's not just New York State standards and criteria but now the federal ARAR's must also be complied with.

MR. KARWIEL: Thanks, George and you could have jumped in on that too, Mark. And we have this balancing criteria. We look at the short term/long term effect in performance. And with drill monitoring we look at the reduction of toxicity and mobility and volume. And we also have to look at, you know, is our remedy implementible? And we look at what's the future use of the land?

Is there going to be a housing development built on the land? In this case, no, this is part of the Metro Sewage Treatment Plant and it is intended to stay that way.

And another thing that we've got low on the list is cost effectiveness. We have to look at it and we have to say is

it reasonable? Is it reasonable to go to $54 million and dig out every drop that we can and still have residual left because it's situated under buildings and under utilities and things like that. We have to take a look at that. And we have to see what the ramifications are for the general public on the high cost of the project.

So all these aspects are looked at when we're trying to come up with the best decision for the remedy.

Modifying criteria is community acceptance. We have to get the community on board. We want to get input from them and they have to agree to it or give us reasons why they don't agree. And we will look at that and evaluate it and you know, if it changes the remedy so be it. But we definitely have to take in their input and evaluate it.

Now the proposed remedy is a combination approach. We like the in

situ stabilization of the source areas. And I showed you that slide earlier, the red stars. And that was a total of 6.7 million. Along with enhanced bio, bioremediation which was the 3.7 million, and we figure between the two remedies we have a good remedy, because we're solidifying the source material and we're polishing it off by enhancing the groundwater flowing through that area to help us work against the dissolved component, contamination found in the groundwater.

This is a figure that actually shows this area is our in situ stabilization area. And this has been looked at closely and many changes have been made over the months and years that we worked on this site to come up with this.

Along with that is our sections of enhanced bioremediation, that area and this area here. And that basically kind of outlines our two remedies, their location and what we expect to take care

of in that area.

MS. CARLTON: What is the blue hatch lines between the Metro station?

MR. KARWIEL: You're taking about this right here? Well, this was part of the IRM, this whole area and so was this. This was a pipeline that went into part of the treatment plant, functioning treatment plant over here to connect that. This was the ammonia and phosphorous removal addition to the plant. And this was a part of that IRM.

I was actually out, I did all the sites, what am I trying to say?

MR. HEITZMAN: Big dig.

MR. KARWIEL: Oversight for that big dig, and that was a part of our big dig. Now as part of our construction controls we'll have a continuous air monitoring, we'll set up three to five stations or more depending on our site conditions and things like that to just keep track of any vapors in the air that may be produced during the ISS operation.

Usually we have one upwind and two to three downwind depending on the size of the site. And that, in these stations, these continuous air monitoring stations will monitor for suspended solids in the air and VOCs, that could be, you know, emanating from the work that we're doing with that auger in the stabilization process.

Another thing that will be done to control vapors is, there is a few things to be done, in this case we're actually, there is a foam we're blowing on to this open excavation and that does a wonderful job of cutting down odors that come off of that contaminated material. We've also used biosolve and a water mixture that we sprayed out with pressure washers and misters, which does a very good job too of cutting down vapors and odors coming from an open excavation or even coming from a mixing operation at the in situ stabilization or solidification I should say.

MR. HEITZMAN: This does show one of the advantages of the solidification that you don't have to open up an excavation like this and worry about controlling the dust and vapors as you would for the excavation alternatives. That's one of the reasons we prefer the solidification technology, it has fewer short term impacts.

MR. KARWIEL: And part of the other things we do to make sure that we're not disturbing or impacting the environment outside of our work area is equipment decontamination. All trucks, we'll take efforts to make sure that the trucks either do not get soil when they come on the site, any trucks at all, delivery trucks, whatever, or they're all decontaminated before they leave the site. You normally will set up a decontamination area and all vehicles have to go pass through this and the tires will be washed and be checked to make sure nothing is leaking out of the

boxes. They'll even be checked to see if there is anything leaking out of the transmission and things like that, so all that is taken into consideration so we don't impact the general public during any kind of a remedial operation.

Next steps. As I said it's the comment period ends March 27th. We'll develop a Responsiveness Summary after that date from any input that we get from this meeting. Once we get that done and we have all our input in from all the partners in this program we'll come up with a final Record Of Decision. And after that they'll start with the remedial design.

Arcadis or someone that National Grid has developed a relationship with will probably do that remedial design and of course the Department will review that. We'll get to the point where we're able to go to construction. And finally we'll have a site management plan where we can look at the site, keep

track of what's happening with the site, and make sure our remedy is working appropriately.

And Dick Jones from the DOH can take over.

RICHARD JONES: Well, as you can see that's my address and all in case there are any health related questions, anybody has or comments feel free please to get them on in to either Tony or myself.

Pretty much the role of the Department of Health is to work with the DEC and when appropriate the EPA. We collect the information needed to evaluate potential human exposures to the environmental contamination. We evaluate the data, review, make recommendations, and then we either concur with proposed remedies or not. You know, the criteria listed earlier, is it protective of public health and the environment? Well, that's where we come in, the public health part.

If it's not going to be protective, we review it, if it's not going to be protective of public health the remedy is just not going to fly. We'll end up sending Tony a note and telling him, no, tell him to try again.

We also look at things like health and safety plans community air monitoring plans. You saw the community air monitoring for a lot of them, that's a big big issue with the coal tar sites. There is no doubt about it this stuff stinks. It has the volatiles. Some sites do end up with dust particulates, etc., that's where the air monitoring plan comes in. We tend to monitor for the VOCs, the particulates.

And at these sites in addition to that we usually have kind of a cursory inspection that goes along with it or we look around and just try to find out if there are any nuisance odors that can be generated from the material. Because I mean even the nuisance odors can be

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pretty irritating to a lot of the public if they're getting a high level of those odors.

MR. KARWIEL: In addition to that, if you don't mind me stepping in on you, a lot of our monitoring won't show any numbers even when we have a nuisance odor threshold. And even though we're continuing to monitor we kind of rely on the public and ourselves, we'll walk the site, the perimeter of the site to be sure that we don't have nuisance odors that we feel are becoming a problem.

And we've worked with National Grid on several of these type projects and they're very good at taking the steps needed to control even nuisance odors. Even though not getting a number on a monitoring station or anything like that that says we have volatiles at a certain level, they may be showing zero, but we have nuisance odors, and we don't want to get a complaint. So we want to take action before we do get a complaint from

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the general public.

MR. JONES: Lot of preventive.

MR. KARWIEL: Absolutely.

RICHARD JONES: What Tony said, a lot of times you won't get, because of the nature of the material, you won't even get a detection on the volatiles scan. But because the odor threshold is so low with semi-volatiles many of them you're going to actually smell before they even show up on a PID or other detection device.

We also make recommendations to address any potential exposures, evaluate the need for additional information or actions. We go through the data, take a look at it, if it's good, we think it's thorough enough or we point out spots where we may need some information over in another area to go ahead and address any potential concerns. A lot of times it may show up that it was nothing, but unless you have the data you don't know.

The next thing is, you know, we're

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talking, we look for exposures, exposure pathways or routes of exposure. But what is exposure? Physical contact with chemical or substance. Direct contact. You actually have to have it on you. You have to touch it or have it smeared on your skin. Things can absorb through your skin.

Ingestion. Eating or drinking it. Of course drinking contaminated groundwater is probably one of the more common ways, but if you're working in the material, get some on yourself, you happen to just wipe your mouth you have some on your hand, you know, you can accidently ingest small amounts.

Inhalation. Breathing the vapors, breathing in particulates, that's where sometimes we investigate also soil vapor intrusion, that would go through that pathway.

Okay, for an exposure to actually occur one or more of the physical contacts must occur before a chemical

has the potential to cause a health problem. Just the fact that we have something sitting in an area doesn't mean it's going to create an exposure or create a health issue with someone. You know, you actually have to be exposed to it. It has to contact you, you have to eat it, you have to breathe it; one way or another.

The different potential exposure pathways that can exist: Direct contact with soil we said. Okay, we're going to be at this site solidifying the source area, but because of what it is, expansion in the soil because we're adding a concrete mixture, clay mixture that's going to swell. And if we allow it to swell too much the treatment plant is not going to really operate. So there is going to be some soil that has to be removed from that area. So here we are, we're going to be excavating some of the shallow contaminated soil.

When we get done with the excavation

there, get done with the solidification, as it is now the site does exist where it is either covered with pavement, sewer treatment plant structures or with clean soil that's been placed there through landscaping activities, etc. I mean we don't have any of the contamination right now right at the surface. So it's going to be very difficult for anybody to inadvertently get in there and actually contact the soil.

During the excavation again we talk about our community air monitoring plan will be implemented, you know, again, a very important part of the remedy.

Another potential exposure pathway, ingestion of groundwater. In this case we have no private wells on-site, have no private wells in the area. The whole area is served by public water. I also know that Onondaga County Water Authority has a cross connection control program so that it strongly discourages, it may even make it illegal to actually put a

well in the area. So I don't anticipate groundwater being used, bathed in or ingested at all.

Again, the only possibility may be some of the workers if they contact some of the water during the actual construction activity of the remedy. That would be about the only possibility that we came up with where they would.

Okay, the soil vapor, inhalation of soil vapor. We investigated this site and just about every other manufactured gas plant site and I don't know of any of them where we've really had any issues with soil vapor intrusion being a significant issue enough to where we would have to address potential exposures. The levels, just for some reason at these sites, just do not seem to be at the level where it warrants further action.

MR. HEITZMAN: If I can just clarify that since we're on the record. There has been five sites across New York

State where some kind of action has been taken on a MGP site. That action may have been continued monitoring but we have in some cases dust inhalation.

RICHARD JONES: In this case there wasn't. A lot of times what we do if buildings are put on the site more for a preventive maintenance issue or for preventive issue we go ahead and require as one of our institutional controls, we go ahead and have it added in that any new constructed buildings be fitted with a subslab depressurization or other mitigation system just to prevent any potential exposures. And as I said before, we review each of these remedies, etc. to determine is this going to be protective of public health and the environment? And in this case we made the determination that yes, this is going to be protective of public health.

MR. KARWIEL: Okay. Anybody have any questions?

MR. HEITZMAN: Just so everyone knows, we do have a court reporter with us tonight so any questions asked will be entered into the record verbatim, not like we usually do, sort of paraphrase any responses.

MR. KARWIEL: That's it?

MR. HEITZMAN: Are we adjourned? We are adjourned.

[Conclusion of Public Meeting].

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C E R T I F I C A T E

This is to certify that I am a Certified Shorthand Reporter and Notary Public in and for the State of New York, that I attended and reported the above entitled proceedings, that I have compared the foregoing with my original minutes taken therein and that it is a true and correct transcript thereof and all of the proceedings had therein.

____
John F. Drury, CSR, RPR

Dated: March 22, 2010