

GLEN ISLE

WATERFRONT REVITALIZATION PROJECT

Glen Cove, NY

PWGC Project No. RGI0801

ENVIRONMENTAL CONDITION REPORT

September 10, 2009

Prepared for:

RXR-Glen Isle Partners, LLC

Prepared by:



Strategic Environmental & Engineering Solutions

Executive Summary

This Environmental Condition Report was prepared by P.W. Grosser Consulting, Inc. on behalf of RXR-Glen Isle Partners, LLC for the Glen Isle Waterfront Revitalization Project. The purpose this report is to summarize the environmental condition of the Glen Isle (GI) Subject Properties, which includes the regulatory status, available data and any data gaps. In addition adjacent properties that have the potential to impact the environmental condition of subject properties are also discussed.

The site consists of multiple properties that fall under various environmental cleanup programs, e.g. federal and state Superfund sites and the municipal Brownfield Environmental Restoration Program (ERP). These are complicated sites with environmental histories that span several decades. Remediation has been completed on the majority of the properties to satisfy the administrative records and some of the smaller parcels are in the preliminary stages of investigation and cleanup. However, the purpose of this Report is to document the existing environmental conditions and identify areas of remaining contamination on the Properties, which may require further investigation and/or remediation during development.

The GI Subject Properties are located along Herb Hill and Garvies Point Roads in Glen Cove, New York. The GI Subject Properties includes several parcels, all of which contain environmental concerns as a result of past uses. These parcels include:

- 1) Li Tungsten Federal and State Superfund Site
- 2) Captain's Cove New York State Superfund Site (including a delisted portion)
- 3) Angler's Club Site
- 4) Gladsky Site
- 5) City of Glen Cove Sewage Pumping Station Site
- 6) Doxey Site
- 7) The Gateway Properties (seven tax lots including, Windsor Fuel and Nassau Ready-mix, Brilliant Air, and an office building)

In addition, there are several properties adjacent to the GI Subject Properties that contain environmental concerns that have the potential to impact the GI Subject Properties. These include:

- 1) Mattiace Petrochemical Federal Superfund Site
- 2) Crown Dykman New York State Superfund Site
- 3) Konica Minolta Site
- 4) Slantfin Site

It should be noted that analytical results for each property are compared to the cleanup criteria established for the individual site at the time of action. These criteria vary as multiple regulatory agencies were involved, under different programs, spanning a period of more than decade. For consistency and comparison purposes, analytical results were also compared to the cleanup objectives for Unrestricted Use and Restricted Residential land use as specified by 6 NYCRR Subpart 375-6.8(a) and (b) (Part 375), which are the most current soil cleanup objectives used by the New York State Department of Environmental Conservation (NYSDEC). Investigation and remedial activities have identified that soil and groundwater impacts exist on the GI

Subject Properties. In many instances, soil impacts exceed the NYSDEC Part 375 Cleanup Objectives.

Previous environmental investigations and remediation have identified areas of potential or known residual contamination are summarized in the table below.

Areas of Potential or Known Remaining Impact

Site	Contaminant	Media	Details
Li Tungsten Parcel A	Semi-volatile organic compounds (SVOCs)	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential
	Arsenic/Lead	Saturated Soil (below ground water)	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but generally beneath the groundwater table
	Radiological	Saturated soil/sediment (below MLW)	Residual levels in excess of cleanup standards at depths greater than 11' in areas adjacent to bulkhead (in creek)
	Volatile organic compounds (VOCs)	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Li Tungsten Parcel B	Polychlorinatedbiphenyls (PCBs)	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential for soil. Clean fill cover must be maintained
	Arsenic/Lead	Soil	Residual levels in excess of cleanup standards at one endpoint sample location and screening data indicated some metals hot spots (enclaves of soil containing chemical(s) at a concentration that exceeds the maximum regulatory levels for the anticipated site use)
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source
Li Tungsten Upper Parcel C	Arsenic/Lead	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential at one endpoint sample location, in soil west of Dickson Warehouse and screening data indicated some metals hot spots.
	Radiological	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in the Benbow Building
Li Tungsten Lower Parcel C	SVOCs	Soil	Visual petroleum impact beneath former AST slab
	Arsenic/Lead	Saturated Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in soil generally beneath the groundwater table
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.

Site	Contaminant	Media	Details
Captain's Cove	SVOCs/Metals	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in the in soil that were used as backfill from on-site soils and data for off-site sources of backfill used as part of the EPA remediation are not available
	Arsenic/Lead	Groundwater	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in soil generally beneath the groundwater table
	Various	Sediment	Tidal flats, tidal wetlands, sediments directly behind the bulkhead, the Retention Ponds sediment were characterized as part of the RI; however conditions should be verified now that remediation has been completed
	Landfill Waste	Debris/Other	Areas not excavated may contain landfill wastes
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Angler's	SVOCs/metals	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential for soil.
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Gladsky	SVOCs/metals/PCBs/asbestos	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Pumping Station	SVOCs/metals	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Doxey	SVOCs/metals/pesticides	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Gateway Properties	Unknown	Various	Phase I ESA identified suspected sources of contamination at these properties.

Based upon the remaining areas of impact and the proposed development plan, data gaps suggesting the need for further investigation and remaining contamination that may warrant remediation were identified. The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among

regulatory agencies will determine the need for additional investigation and/or remediation. The table below summarizes the data gaps and remaining areas of remediation for the GI subject properties.

Data Gaps - Required Remediation

Site	Data Gap/Required Remediation	Recommendation	Performed By
Glen Cove Creek	Quality of creek sediments	Perform radiological survey and sampling of creek sediments.	Developer/City
Li Tungsten Parcel A	Soil quality beneath dredge spoil stockpiles	Perform soil sampling to determine soil quality after removal of stockpile	Developer/City
	Opened NYSDEC Spill File 01-00419	Investigate and address to gain closure of Spill File	Developer/City
Li Tungsten Parcel B	Potential for isolated metals "hot spots" in soils not removed as part of EPA remedial effort	Perform soil sampling to determine soil quality	Developer/City
Li Tungsten Upper Parcel C	Potential for isolated metals "hot spots" in soils not removed as part of EPA remedial effort	Perform soil sampling to determine soil quality	Developer/City
	Potential for radiological/metals impacts in and beneath Benbow Building	Perform soil sampling and radiological survey of building	Developer/City
Li Tungsten - All Parcels	Quality of soil used as backfill	Perform soil sampling to determine soil quality	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Captain's Cove	Wetlands, tidal flats, basins	Perform sediment sampling to verify not impacted by remedial efforts	Developer/City
	Quality of backfill material not known	Perform sampling in proposed areas of development	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Angler's Club	Potential for asbestos and lead based paints based on age of building	Perform survey to identify materials/handle demolition in accordance with regulations	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Gladsky	NYSDEC has approved a Preliminary Remedial Action Plan	Implement PRAP	City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Pumping Station	Potential for asbestos and lead based paints based on age of building	Perform survey to identify materials/handle demolition in accordance with regulations	Developer/City
	Potential for sanitary wastes beneath system piping	SMP addresses how this material may be handled	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Doxey	Potential for asbestos and lead based paints based on age of building	Perform survey to identify materials/handle demolition in accordance with regulations	Developer/City
	Opened NYSDEC Spill File 92-09888	Investigate and address to gain closure of Spill File	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Gateway	Potential for impacts from property	Perform a Phase II ESA	City

Site	Data Gap/Required Remediation	Recommendation	Performed By
Glen Cove Creek	Quality of creek sediments	Perform radiological survey and sampling of creek sediments.	Developer/City
Properties	usage		
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City

The NYSDEC and the USEPA have indicated that an Environmental Easement (EE) and Site Management Plan (SMP) will be required, which details the institutional and engineering controls that are proposed. The SMP will address management of soil (handling and disposal) during planned construction earthwork activities and operation, monitoring, and maintenance procedures after construction is completed. The SMP will be submitted to regulatory agencies for review and approval. The SMP will be required to be incorporated as part of the environmental easement for the property.

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1.0 Introduction

This Environmental Condition Report was prepared by P.W. Grosser Consulting, Inc. on behalf of RXR-Glen Isle Partners, LLC for the Glen Isle Waterfront Revitalization Project. The site consists of multiple properties that fall under various environmental cleanup programs, e.g. federal and state Superfund sites and the municipal Brownfield Environmental Restoration Program (ERP). These are complicated sites with environmental histories that span several decades. Remediation has been completed on the majority of the properties to satisfy the administrative records and some of the smaller parcels are in the preliminary stages of investigation and cleanup.

1.1 Purpose of Report

The purpose this report is to summarize the environmental condition of the Glen Isle (GI) Subject Properties, which includes the regulatory status, available data and any data gaps. In addition adjacent properties that have the potential to impact the environmental condition of subject properties are also discussed.

1.2 Subject & Adjacent Properties

The GI Subject Properties are located along Herb Hill and Garvies Point Roads in Glen Cove, New York. The GI Subject Properties include several parcels, all of which contain environmental concerns as a result of past uses. These parcels include:

- 8) Li Tungsten Federal and State Superfund Site
- 9) Captain's Cove New York State Superfund Site (including a delisted portion)
- 10) Angler's Club Site
- 11) Gladsky Site
- 12) City of Glen Cove Sewage Pumping Station Site
- 13) Doxey Site
- 14) The Gateway Properties (seven tax lots including, Windsor Fuel and Nassau Ready-mix, Brilliant Air, and an office building)

In addition, there are several properties adjacent to the GI Subject Properties that contain environmental concerns that have the potential to impact the GI Subject Properties. These include:

- 5) Mattiace Petrochemical Federal Superfund site
- 6) Crown Dykman New York State Superfund site
- 7) Konica Minolta site
- 8) Slantfin property

Figure 1 is a map depicting the GI Subject Properties, adjacent properties and the immediate vicinity.

The GI Subject Properties and the adjacent properties are currently in various stages of environmental remediation (investigation, planning, execution, operation, monitoring and maintenance), which are being executed by the New York State Department of Environmental Conservation (NYSDEC), the United States Environmental Protection Agency (EPA), and/or potentially responsible parties (PRPs).

The GI Waterfront Revitalization Project is a planned mixed use community consisting of residential, commercial and recreational spaces.

2.0 Existing Environmental Conditions – GI Subject Properties

The parcels comprising the GI Subject Properties include: Li Tungsten, Captain's Cove, Angler's Club, Gladsky Site, City of Glen Cove Sewage Pumping Station, Doxey Site, and the Gateway Properties. These properties cover approximately 55 acres.

Existing environmental conditions are summarized in the sections below. It should be noted that analytical results for each property are compared to the cleanup criteria established for the site at the time of investigation or remediation. These criteria vary as multiple regulatory agencies were involved, under different programs, spanning a period of more than a decade. For consistency and comparison purposes, analytical results were also compared to the cleanup objectives for Unrestricted Use and Restricted Residential land use as specified by 6 NYCRR Subpart 375-6.8(a) and (b), which are the most current soil cleanup objectives used by the NYSDEC.

2.1 Li Tungsten

Li Tungsten occupies 26 acres and comprises five distinct areas:

- Parcel A
- Parcel B
- Parcel C which is divided into three areas
 - Upper C
 - Lower C
 - C Prime

Figure 2 is a layout for Parcels A, B and C that are oriented on opposite sides of Herb Hill Road and Dickson Street.

2.1.1 Li Tungsten - Site Location and Historic Uses

The Li Tungsten Site is located at 63 Herb Hill Road in Glen Cove. Industrial operations at the site took place from approximately 1940 through 1984, under a succession of corporate entities, some of which were not related to each other. The first industrial use of the site was as a leather belting facility. However, during most of the period of industrial activity at the site, operations involved the processing of ore and scrap tungsten concentrates to ammonium paratungstate to form tungsten powders.

Parcel A is an approximately seven-acre parcel formerly occupied by buildings and paved areas. Most of the processing activities took place on Parcel A, including outdoor storage of scrap for processing. Parcel A is bordered to the south by Glen Cove Creek, to the west by Doxey, to the east by the Gateway Properties, and to the north, across Herb Hill Road, by Parcel B and Crown Dykman. Parcel B is an

approximately six-acre, primarily undeveloped parcel that was predominantly used for parking as well as some disposal of ore residuals. Parcel B is bordered to the north by The Place (a local street) and residential properties, to the south, across Herb Hill Road, by Parcel A, to the east by Crown Dykman, and to the west, across Dickson Street, by Parcel C. Parcel C is approximately 10 acres, divided into Upper C and Lower C, and was used for wastewater treatment, processing, storage and disposal of ore residuals. Parcel C is northwest of Parcel A, with Doxey to the south, residential to the north and Mattiace as well as Parcel C prime to the west. Parcel C prime is an approximately four-acre undeveloped parcel and is bordered to the north by residential properties, to the west by a vacant undeveloped property, to the south by Mattiace, and to the east by Parcel C. These parcels total approximately 27 acres in size.

2.1.2 Li Tungsten - Current Physical Site Conditions

Currently no site operations are being performed on any of the parcels. Parcel A is currently void of any structures that may have been associated with the facility, with the exception of the Lounge Building, located in the southeast portion of the parcel. The remedial investigation determined that this building was not contaminated and did not require demolition. The site is occupied with non-radioactive dredge spoils that were excavated from the Creek in 2006-2007 and screened for radioactive ore residuals resulting from the Li Tungsten operations. The residuals were subsequently removed and disposed. Based upon site plans in previous reports, Parcel A had five buildings, numerous (approximately 40 or more) above ground storage tanks (ASTs) and underground storage tanks (USTs) and other supporting features. It is understood that the tanks have been removed and the concrete slabs and foundations associated with the buildings are still in place.

Parcel B is fenced, has been recently excavated, and contains new vegetative growth cover. The property is sloped and has not been fully re-graded. No structures exist on the site.

According to the *Li Tungsten Draft Final Remedial Investigation Report, May 1998* (RI-LT), Parcel C is divided into three sections: Lower C, Upper C, and C Prime. Lower C is approximately four acres in size and contained surface impoundments such as Mud Pond (lined), Mud Holes (unlined used for waste storage and disposal and a scarred vegetation area), a 500,000 gallon AST, and two additional ASTs that contained hydrogen and propane. Currently, the Lower C area is void of above-grade structures. The remaining area is unpaved or covered with aggregate. Materials, equipment and debris are currently staged on the property.

The southern edge of the Dickson Warehouse is the boundary between the Lower/Upper C areas. Upper C is a sloped property that includes the Dickson Warehouse and Benbow Building. Both buildings are in extreme disrepair with the Benbow building being unsafe to enter.

C Prime is to the west of Upper C and was separated as an area that did not require remedial action by the EPA based upon the results of the RI-LT. C Prime is undeveloped and undisturbed.

2.1.3 Li Tungsten - Summary of Regulatory Involvement

The Site was listed on the EPA's National Priority List (NPL) as a Federal Superfund Site, on October 14, 1992 and the EPA identification number is NYD986882660. After the remedial investigation a Record of Decision (ROD) was issued in 1999. The ROD established the following three Operable Units (OU):

- OUI Li Tungsten Facility;
- OUII Captain's Cove (The portions of the Captain's Cove site where Li Tungsten radioactive ore residuals were disposed);
- OUIII Building Survey and Remediation; and
- OUIV Creek (this OU was established in 2005).

OUIII was deleted in December 1998 after a fire occurred in the Dice Buildings on Parcel A. The EPA decided to raze the buildings, thus rendering OUIII unnecessary.

At the time of the 1999 ROD, the projected future use of the Li Tungsten site was commercial development. More recently, the City of Glen Cove revised its Master Plan and re-zoned the property to include residential development. In May 2005, the EPA issued an Explanation of Significant Difference (ESD), which amended the ROD. Based upon the ESD, the site is appropriate for residential use with restrictions and further evaluation necessary for Parcel A, prior to a decision. At the request of the City in the late fall 2008, the EPA is performing this evaluation.

A March 2005 ESD added the Glen Cove Creek as OUIV due to radioactive ore residuals identified in the sediments in September of 2000.

As of the date of this summary, the EPA has stated the remedial activities to satisfy the ROD and the ESDs have been completed. These activities are discussed in detail in Section 2.1.4. One of EPA's requirements is that groundwater quality be monitored for a period of 5 years. The full list of restrictions according to the ROD and the ESDs are described in following paragraphs.

The site is also listed in the State Superfund Program by the NYSDEC, Site No. 130046. The NYSDEC has reviewed and concurred with actions performed by the EPA. The EPA has been and will continue to be the lead agency for the Li Tungsten site. However, the NYSDEC still has authority over the site and will be involved in the redevelopment process.

Based on the ROD and the ESD, the EPA requires that certain restrictions be imposed on the Li Tungsten site. These restrictions run with the real property and will be binding on parties who acquire the real property in the future. These restrictions include:

- Complete prohibition on groundwater use;
- Soil gas evaluation for volatile organic compounds (VOCs) and radon. The purpose of the soil gas evaluation would be to determine whether the presence of VOCs or radon in the subsurface soil might have the potential to adversely affect indoor air quality in building structures;
- The site is appropriate for residential use with further evaluation necessary for Parcel A. At the request of the City in the late fall 2008, the EPA is performing this evaluation.

2.1.4 Li Tungsten - Investigations & Remedial Activities Previously Conducted

The EPA conducted a remedial investigation at the site from 1993 to 1998, which is documented in the RI-LT Report. The RI-LT Report concluded that the primary contaminants for the site are heavy metals and radionuclides. Based upon the RI results, EPA issued the ROD in 1999. The ROD required excavation and off-site disposal of contaminated soil and additional remedial actions.

In the 1999 ROD, the EPA evaluated the Site using Site-Wide Cleanup Levels (SWCLs) developed to be protective of human health and the environment for commercial, which was in accordance with the City’s development plan at that time. Subsequent to the 1999 ROD, the City of Glen Cove adopted a mixed use development plan. As a result of the change in use, the EPA re-evaluated the SWCLs to allow for restricted residential use, which resulted in a modification to the radiological criteria (no change in the SWCLs for metals), which is documented in the May 2005 ESD. The revised SWCLs for Li Tungsten which allow for restricted residential use are as follows:

PARAMETER	EPA SITE-WIDE CLEANUP LEVELS
Arsenic	24 mg/Kg
Lead	400 mg/Kg
Thorium-230 + Thorium 232	≤5 pCi/g + background *
Radium-226 + Radium-228	≤5 pCi/g + background *
PCBs (Parcel B)	1 mg/Kg in the top 2 feet
PCBs (Parcel B)	10 mg/Kg below the top 2 feet

Notes:

mg/Kg = Parts per million (ppm)

pCi/g = picocuries/gram

Background is approximately 1 pci/g for each isotope

As part of the May 2005 ESD, the EPA evaluated cleanup levels for remedial actions performed prior to this ESD and found results to be protective for residential use. Although a risk assessment was performed as part of the RI-LT, no information regarding the completion of a risk assessment was provided for the change in SWCLs.

As documented in the 1999 ROD, the selected remedy for groundwater contamination was no action, as it was anticipated that source removal will improve groundwater quality beneath the site. Post remediation groundwater monitoring will be performed by the PRP, under the direction of the EPA for a period of 5 years.

The following Sections 2.1.4.1 through 2.1.4.5 contain a description of the remedial activities and O&M activities conducted at each Operable Unit comprising the Li Tungsten site.

2.1.4.1 Operable Unit I

Remedial activities were separated into Phase I and Phase II for OUI. Phase I remedial activities, which focused on Parcel A and Lower C, included:

- Demolition of the Carbide Building and Lab/Office/Wire Building Complex;
- Segregation and decontamination of radioactive building debris;
- Staging of radioactive soil and debris in the Dickson Warehouse;
- Disposal of non-radioactive, heavy metal contaminated soil and non-radioactive building debris;
- Sampling and analysis to confirm excavation pits have met cleanup criteria;
- Flushing, collection and disposal of contaminated sediments from storm sewers under the Phase I remediation area; and
- Decommissioning of industrial well N1917 on Parcel A.

Phase II remedial activities, which were performed by the PRP, focused on Upper Parcel C and Parcel B included:

- Remediation of areas of impacted within the Phase I area, which were not completed as part of the Phase I activities due to logistical difficulties. These areas are referred to as "Exempt Areas";
- Removal and disposal of stockpiled radioactive waste in the Dickson Warehouse;
- Excavation and disposal of soils impacted with radioactivity, PCBs and metals from Upper Parcel C and Parcel B;
- Confirmation and characterization surveys of the excavated materials prior to disposal;
- Disposal of Dickson Warehouse contents and warehouse decontamination; and
- Grading and stabilization of Parcel B and Upper Parcel C.

Remedial activities for OUI and subsequent investigations are detailed in the following reports:

- *Interim Remedial Action Report OUI Parcel A +Lower Parcel C Excavation and offsite Disposal of Contaminated Soil*, September 2001 (Interim RAR-OUI);
- *Glen Isle Field Verification Program Certification Sampling Event #1 prepared October-November 2003* (GI-FVP);
- *Final Interim Remedial Action Report – Post-Remedial Actions at Dickson Warehouse and Upper Parcel C*, November 2004 (Upper C and Dickson IRAR);
- *Final Remedial Action Report for OUI*, September 2008 (2008 Final RAR);
- *Draft Final Status Survey Report – Post Remedial Actions at Parcel B and Parcel C*, September 2008 (FSSR).

A description of remedial activities and subsequent environmental investigations performed on each Li Tungsten parcel and their current environmental condition is detailed in Sections 2.1.4.1.1 through 2.1.4.1.5

2.1.4.1.1. Li Tungsten - Parcel A

Remedial activities on Parcel A, performed as part of Phase I were completed in 2000. As part of this remedial effort, all of the above ground portions of the buildings at Parcel A were demolished to allow for removal of tanks, piping and wastes (except for the Lounge Building which was not contaminated). In addition, the EPA excavated contaminated soil at 28 discrete areas located on Parcel A, at

depths ranging from 1 to 12 feet. These areas were identified as part of the RI completed in May 1998. These excavations did not extend to the bulkhead, and building slabs/ foundations were not removed. Twelve endpoint samples were collected for arsenic and lead and 22 samples were analyzed for Radium-226 and Thorium-232. These endpoint samples were composites from five locations. Results are summarized below and additional information is contained in the *Interim RA-OUI* and the *2008 Final RAR*.

- Arsenic: 12 endpoint samples, 6 exceeded the SWCL of 24 mg/Kg, highest concentration was 580 mg/Kg in one of the composite samples.
- Lead: 12 endpoint samples met the SWCL of 400 mg/Kg.
- Radium-226: 22 endpoint samples, no exceedances.
- Thorium-232: 22 endpoint samples, one exceedance of 5.9 pCi/g with three other samples above 4 pCi/g (Note: these samples may exceed the 2005 ESD Thorium-230/232 combined cleanup level of 5.0 pCi/g).

In addition, as part of the Phase II remedial activities, an "Exempt Area" was excavated on Parcel A in 2003. This area was identified during the RI, but had initially been "exempted" as part of the Phase I remediation due to logistical difficulties encountered during the remedial effort. Detailed information regarding the volume of soil excavated is not available, but it was reported to be located near the creek along the Doxey-Parcel A border. A composite endpoint sample analyzed for Radium and Thorium indicate no exceedances. This portion of the remedial effort is discussed in the *2008 RAR*.

Glen Isle conducted a limited "verification" sampling in 2003. This sampling was performed in order to identify data gaps and gain soil quality information in areas not sampled and/or remediated by EPA. The results of this verification sampling are documented in the GI-FVP. The verification sampling identified SVOC and arsenic contamination on Parcel A (analyses excluded radiological parameters). However, the EPA radiological consultant accompanied Glen Isle during the field program to survey radioactivity at the sample locations, and no exceedances were detected according to the GI-FVP. Figure 2A indicates areas of remaining impact on Parcel A.

Crown Dykman is hydraulically upgradient to Parcel A and is a documented source of groundwater contamination impacting the Li Tungsten Site. Konica Minolta is upgradient of the Gateway Properties and is also a documented source of groundwater contamination. However, offsite movement of the Konica Minolta plume has not been fully documented. These sites are the source of VOC groundwater plumes that have the potential to impact Parcel A. As a result, the possibility of VOC vapor intrusion into buildings constructed on the Li Tungsten Site cannot be ruled out until these groundwater plumes are defined by a future groundwater monitoring program. Available information regarding the existing environmental conditions at the Crown Dykman and Konica Minolta sites are contained in Sections 3.2 and 3.3. Recent groundwater analytical data for these sites collected as part of routine monitoring are contained in Appendix A. Results indicate that groundwater containing elevated concentrations of VOCs exists beneath Parcel A and the southeast portion of Parcel B.

Finally, an opened NYSDEC Spill File (#01-00419) exists for Parcel A. This Spill file was opened in 2001 because of a hydraulic oil release resulting from equipment failure from a commercial vehicle. No further information regarding this spill is

available. The Spill File will be investigated and addressed by the developer, prior to development.

The RI indicated elevated concentrations of SVOCs, which led the EPA to reserve the property use pending further evaluation for Parcel A. As explained in the above paragraphs, remaining areas of impacted soils exist on Parcel A. These include areas containing elevated concentrations of arsenic, lead, and SVOCs. In addition, non-radioactive dredge spoils from the OUIV remediation effort are staged on Parcel A. The Glen Cove Industrial Development Agency (IDA) is responsible for disposal of the dredge spoils and this will be performed in the near future under a Beneficial Use Determination (BUD) issued by the NYSDEC. However, sampling will likely need to be conducted following the removal of this material in order to document soil quality.

Areas of remaining impact are shown on Figure 2A. The quality of fill material used to backfill excavation areas is unknown, since it was not described in the RAR. In addition, the potential for VOC groundwater impacts, resulting from offsite sources, exist beneath Parcel A. Surface soil quality will be confirmed after the removal of dredge soils and prior to development. In addition, subsurface soil and groundwater quality will be confirmed on Parcel A. Soil vapor sampling will be performed by the developer to evaluate the potential for intrusion into proposed structures. The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.1.4.1.2 Li Tungsten - Parcel B

Remedial activities on Parcel B, performed as part of Phase II activities, were completed in 2007. As part of this remedial effort, soil throughout the Parcel impacted with arsenic, lead, PCBs, and radiological contaminants was excavated and disposed off-site.

Impacted soil was excavated in increments of one-foot after which a Remedial Action Support Survey (RASS) was performed. The RASS consisted of a detailed surficial instrumentation scan of the remaining soil using portable gamma radiation detectors for radiological contaminants and XRF instrumentation for metals impacts. According to the 2008 RAR, samples were also collected for PCBs during excavation in order to determine when SWCLs had been achieved.

The remedial effort on Parcel B included the excavation of 16,315 cubic yards (cy) of non-hazardous metals impacted soil, 2000 cy of hazardous metals (lead and arsenic) impacted soil, 835 cy of PCB impacted soil, and 1,965 cy of radiological impacted soil.

Following excavation, a Final Status Survey was performed to demonstrate that Parcel B meets the SWCLs specified in the ROD. The Final Status Survey Report (FSSR) has been completed in draft. The Final Status Survey segregated areas of the site into "Survey Units" for radiological sampling. Survey Units 5 and 6 were designated as Class 1 Areas. Class 1 area are areas that have, or had prior to remediation, a potential for radioactive contamination (based on site operating history) or known contamination (based on previous radiological surveys. Survey Unit 7 was designated as a Class 3 Area. A Class 3 Area is an area that is not expected to contain any residual radioactivity, or is expected to contain levels of

residual radioactivity at a small fraction of the SWCLs, based on site operating history and previous radiological surveys. Survey Units and sample locations are shown on Figure 2C.2. The FSSR indicates that SWCLs have been achieved, with the exception of the northern portion of the PCB remediation area. Confirmatory sampling indicated that soils remaining in the northern portion of the PCB remediation area contain concentrations of PCBs slightly exceeding 1 mg/Kg. The SWCL for PCBs in subsurface soils (greater than two feet below grade) is 10 mg/Kg, while the SWCL for surface soils is 1 mg/Kg. Therefore, a two-foot clean fill cover was placed over this area. This cover must be maintained in order to meet the ROD SWCL. No information regarding the source or quality of the clean fill cover exists. Although the FSSR indicates that the SWCLs have been achieved (with the exception of the PCB soils which require a two-foot cover) a review of endpoint soil sample data indicates that one sample exceeded the SWCL for arsenic. In addition, the FSSR indicated that field screening for radiological constituents and metals was performed during and following excavation. Field screening for metals utilizing XRF instrumentation indicated that several areas contained arsenic and lead concentrations exceeding the SWCLs. However, a statistical analysis determined that SWCLs were met. The FSSR did indicate that there may be isolated lead and arsenic "hot spots" throughout Upper Parcel C. Endpoint soil sample locations and results are shown on Figures 2B.1 through 2B.3.

Finally, Crown Dykman, which is adjacent to Parcel B, is a documented source of a VOC groundwater plume that has the potential to impact Parcel B. The possibility of VOC vapor intrusion into buildings constructed on the Li Tungsten Site cannot be ruled out until the groundwater plume is defined. Detailed information regarding the existing environmental conditions at the Crown Dykman site is contained in Sections 3.2.

In summary, Parcel B appears to contain remaining arsenic and lead "hot spots". In addition and area of PCB contamination above surface soil standards exists. Therefore, a clean fill cover needs to be maintained in a portion of the site so that the SWCL for PCBs are achieved. This area containing PCB concentrations greater than 1 mg/Kg is shown on Figure 2B. Confirmatory soil sampling will be performed to identify residual isolated soils impacted with arsenic, lead, PCBs, and other contaminants. Finally, the potential for VOC groundwater impacts and soil vapor issues, resulting from offsite sources, exists beneath Parcel B. Soil vapor sampling will be performed by the developer to evaluate the potential for intrusion into proposed structures. The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.1.4.1.3 Li Tungsten – Lower Parcel C

Remedial activities on Parcel C, performed as part of Phase I were completed in 2001. As part of this remedial effort, soil was screened for radiological and heavy metal contamination and excavated in two-foot lifts until either acceptable screening levels were encountered or to the top of the groundwater table. Material that met acceptable screening levels was re-screened in six inch lifts. If acceptable, this material was used as backfill. Material that was not acceptable for backfill was staged in the Dickson Warehouse pending disposal. Ultimately, most of the aerial

extent of lower C required excavation (approximately 4 acres). Excavation depths ranged from 4 feet to 14 feet.

Ten endpoint samples were collected and analyzed for arsenic and lead. Three of the ten samples were also submitted for Radium-226 and Thorium-232 analyses. The endpoint sampling was performed prior to the May 2005 ESD, and therefore do not include Radium-228 or Thorium-230, which are radioactive isotopes that are specifically identified in the SWCLs (in addition to Radium-226 and Thorium-232). As part of the May 2005 ESD, the EPA evaluated this data and found results to be protective to allow for residential development with restrictions. The endpoint samples were composites from five locations. Results are summarized below and additional information is contained in the Interim RA-OUI:

- Arsenic: 10 endpoint samples, 8 exceeded the SWCL of 24 mg/Kg, highest concentration was 1,120 mg/Kg in composite sample
- Lead: 10 endpoint samples, 4 exceeded SWCL of 400 mg/Kg, highest concentration was 807 mg/Kg in composite sample.
- Radium-226: 3 endpoint samples, no exceedances.
- Thorium-232: 3 endpoint samples, no exceedances.

In addition, as part of the Phase II remedial activities, two "Exempt Areas" were excavated on Lower Parcel C in 2003. These areas had initially been "exempted" as part of the Phase I remediation due to logistical difficulties encountered during the remedial effort. Detailed information regarding the volume of soil excavated is not available. Endpoint samples were analyzed for radium, thorium, arsenic, and lead. Results indicate no exceedances for radium or thorium. However, several of the samples contained exceedances of both arsenic and lead. This portion of the remedial effort is discussed in the *2008 RAR*.

Groundwater sampling performed as part of the RI identified radiological contamination in the groundwater, primarily at Parcel C. The NYSDEC Groundwater Quality Standard (GWQS) Radium-226 exceeded the NYSDEC GWQS of 3 pCi/l in several samples collected, with concentrations approaching 11 pCi/l. Other naturally occurring isotopes reported were uranium-238 and thorium-232, however no GWQS exists for these. EPA considered these detections of little concern based on the low concentrations and the groundwater use restrictions.

In addition, verification sampling conducted on behalf of Glen Isle at Lower C and, documented in the GI-FVP, identified potential petroleum stained soil under the 500,000 gallon AST concrete slab. However, semi-volatile organic compound (SVOC) sample results met NYSDEC TAGM-4046 and the more recent Part 375-6.8 (a) and (b) soil cleanup objectives.

Finally, Crown Dykman and Mattiace, which are adjacent to Parcel C, are documented sources of groundwater contamination. Specifically, these sites are the sources of VOC groundwater plumes that have the potential to impact Parcel C. The possibility of VOC vapor intrusion into buildings constructed on the Li Tungsten Site cannot be ruled out until these groundwater plumes are defined by a future groundwater monitoring program. Detailed information regarding the existing environmental conditions at the Crown Dykman and Mattiace sites is contained in Sections 3.1 and 3.2.

As explained in the above paragraphs, remaining areas of known impact exist on Lower Parcel C. These include areas containing elevated concentrations of arsenic and lead, which are contained at or below the groundwater table, with two exceptions. Existing utilities prevented complete excavation of impacted soils above the water table in the "Exempt Area" EA-3. These areas appear to contain concentrations of arsenic and lead above the groundwater table exceeding the SWCLs and are shown on Figure 2C.1. Soil vapor sampling will be performed by the developer to evaluate the potential for intrusion into proposed structures. The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.1.4.1.4 Li Tungsten – Upper Parcel C

Remedial activities on Upper Parcel C were performed in several different phases as the activities included several tasks.

In 2004, 5,180 tons of radiologically contaminated soil and debris stored in the Dickson Warehouse was characterized and properly disposed. This interim remedial effort also included limited excavation of Upper Parcel C. This remedial effort included the excavation of two separate areas of known soil contamination (RA-A and RA-B) to a depth of approximately 24-inches. Upon completion, a total of 3,527 tons of radiologically impacted soils were excavated and disposed off-site. This effort focused on the bulk excavation and removal of soils with radiological contamination. Therefore, endpoint sampling and MARSSIM surveys were not performed at that time, but were performed as part of a Final Status Survey, which is discussed below. Interim Remedial efforts are documented in the *Upper C and Dickson IRAR*.

Excavation of metals and radiologically impacted soils on Upper Parcel C were further performed in 2006 and 2007. Impacted soils identified were excavated in increments of one-foot or less so that a Remedial Action Support Survey (RASS) could be completed. The RASS consisted of a detailed instrumentation scan of the remaining soils surfaces using portable gamma radiation detectors for radiological contaminants and XRF instrumentation for metals impacts.

This remedial effort on Upper Parcel C included the excavation of 24,949 cubic yards (cy) of non-hazardous metals impacted soils, 444 cy of hazardous metals impacted soils, and 231 cy of radiological impacted soils.

Following excavation, a Final Status Survey was performed to demonstrate that Upper Parcel C meets the SWCLs specified in the ROD and ESD. The Final Status Survey segregated areas of the site into "Survey Units" for radiological sampling. Survey Units 1, 2, 3, 4, 8, and 10 were designated as Class 1 Areas. Class 1 area are areas that have, or had prior to remediation, a potential for radioactive contamination (based on site operating history) or known contamination (based on previous radiological surveys. Survey Unit 9 was designated as a Class 3 Area. A Class 3 Area is an area that is not expected to contain any residual radioactivity, or is expected to contain levels of residual radioactivity at a small fraction of the SWCLs, based on site operating history and previous radiological surveys. Survey Units and sample locations are shown on Figure 2C.2. The Final Status Survey Report (FSSR) has been completed in draft and indicates that SWCLs have been achieved,

with the exception of an area west of the Dickson Warehouse. Arsenic and lead were detected at concentrations exceeding SWCLs in endpoint soil samples collected in the vicinity of a storm drain system and electric utility. In order to identify the remaining impacted soil, a 15-mil puncture resistant poly sheeting barrier was installed prior to backfilling the excavation. Although the FSSR indicates that the SWCLs have been achieved (with the exception of an area west of the Dickson Warehouse) a review of endpoint soil sample data indicates that one sample exceeded the SWCL for arsenic. In addition, the FSSR indicated that field screening for radiological constituents and metals was performed during and following excavation. Field screening for metals utilizing XRF instrumentation indicated that several areas contained arsenic and lead concentrations exceeding the SWCLs. However, a statistical analysis determined that SWCLs were met. The FSSR did indicate that there may be isolated lead and arsenic "hot spots" throughout Upper Parcel C. Finally, the FSSR data indicates that several samples collected outside and adjacent to the Benbow Building exceeded the SWCLs for radium and thorium. Sampling performed inside the Dickson Warehouse and Benbow building as part of the Remedial Design did not indicate radiological impacts. However, this sampling effort was limited to two areas in each building. Endpoint soil sample locations and results are shown on Figures 2C.1 and 2C.2.

In 2007 and 2008, stockpiled soils contained in the Dickson Warehouse (from the Upper Parcel C and Parcel B excavation effort) were removed and properly disposed off-site. Following disposal, the Dickson Warehouse was decontaminated. The decontamination effort included vacuuming the horizontal surfaces within the building utilizing HEPA vacuum units, Tennant sweepers and man lifts to access elevated areas of the structure. Following the removal of dust and residual sediment, radiological scanning procedures were performed in order to identify remaining areas of elevated radiological activity. Elevated activity levels were found in areas of the concrete block walls (interior and exterior), the foundation walls (exterior), the concrete floor, and areas of the roof (near positive and passive vents as well as gutters). Several different types of scarifying equipment were used in order to decontaminate these areas. Following scarification, the areas were resurveyed for radiological activity. Decontamination was continued until the surveys did not detect the presence of radiological activity. However, based upon the results of the RI no remediation was performed beneath the building.

Details regarding the remedial activities performed on Upper Parcel C are contained in the *2008 RAR* and the *2008 Draft FSSR*.

Finally, Mattiace and Crown Dykman, which are adjacent to Parcel C, are documented sources of groundwater contamination. Specifically, these sites are the sources of VOC groundwater plumes that have the potential to impact Parcel C. The possibility of VOC vapor intrusion into buildings constructed on the Li Tungsten Site cannot be ruled out until these groundwater plumes are defined by the future groundwater monitoring program. Available information regarding the existing environmental conditions at the Mattiace and Crown Dykman site is contained in Sections 3.1 and 3.2.

As explained in the above paragraphs, remaining areas of known impact exist on Upper Parcel C. These include areas containing elevated concentrations of arsenic and lead, which are found west of the Dickson Warehouse in the vicinity of existing utilities. In addition, isolated arsenic and lead "hot spots" may exist throughout the

Parcel and elevated concentrations of radium and thorium exist adjacent to the Benbow Building. Confirmatory soil sampling will be performed to identify residual isolated soils impacted with arsenic, lead, and radiological compounds. In addition, since no sampling or detailed radiological surveys have been performed in the Benbow Building, this sampling will be performed. The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.1.4.1.5 Li Tungsten – Parcel C Prime

Parcel C Prime is approximately four acres and consists of undeveloped/undisturbed land adjacent to the west of Parcel Upper C. Parcel C Prime was separated as an area that did not require remedial action by the EPA, based upon the RI data. Therefore, no remedial activities were performed in this area. Background soil samples were collected for metals and radiological compounds as part of the Final Status Survey. Sample location and results are shown on Figures 2C.1 and 2C.2.

Finally, Mattiace, which is adjacent to Parcel C Prime, is a documented source of groundwater contamination. Specifically, this site is the source of a VOC groundwater plume that has the potential to impact Parcel C prime. The possibility of VOC vapor intrusion into buildings constructed on the Li Tungsten Site cannot be ruled out until this groundwater plume is defined by a future groundwater monitoring program. Available information regarding the existing environmental conditions at the Mattiace is contained in Sections 3.1.

2.1.4.2 Operable Unit II

OUII involved the excavation and off-site disposal of radioactive wastes associated with Li Tungsten ore residuals that were located on Captain's Cove. Details regarding Captain's Cove investigation and remediation are documented in the Captains Cove Section 2.2.

2.1.4.3 Operable Unit III

OUIII included the buildings on Parcel A. OUIII was deleted in December 1998 after a fire in the Dice Complex. The EPA decided to raze the buildings, thus rendering OUIII unnecessary.

2.1.4.4 Operable Unit IV

A Record of Decision was finalized in March 2005 that resulted in the addition of OUIV, requiring the dredging of the Glen Cove Creek to remediate radioactive ore residuals. Prior to the March 2005 ROD, the US Army Corps of Engineers (USACE) initiated dredging in September of 2000. Spoils surveyed by the EPA resulted in the identification of ore residuals. Sampling and a gamma survey of the creek bottom were performed in October of 2001 and identified several areas of radiological contamination above background levels.

Dredging of the creek sediments was continued by the USACE in late 2006 and into 2007. The EPA screened the spoils, separated the radioactive ore residuals, and placed the ore residuals were placed in the Dickson Building for disposal. Non-radiological dredge spoils were stockpiled on Parcel A and are pending disposal. The City is responsible for disposal of the dredge spoils and this will be performed in the near future under a Beneficial Use Determination (BUD) issued by the NYSDEC.

The remediation of three radiological "hot spots" in the Creek area adjacent to Parcel A was performed in 2007 during the replacement of portions of the bulkhead. These areas were dredged to a depth of eleven feet below mean low water. *The Final Technical Memorandum Gamma Verification Survey for Acceptance Area 3, September 2008* documents the results of the radiological survey performed following the dredging operation. Results indicate that residual radiological impacts exist at depths eleven feet below mean low water in Hot Spot 1 and 2. These areas were not further remediated due to the depth. Details regarding the excavation of the Hot Spot areas will be detailed in a remediation report, which is not completed to date. This report will be reviewed in detail when it becomes available. Details regarding the remaining remediation of OUIV are contained in the *Final Remedial Action Report – Li Tungsten Superfund Site OUIV – Glen Cove Creek, October 2007*.

As explained in the above paragraphs, remaining areas of radiological impact exist within OUIV – Glen Cove Creek. These areas generally occur at depths greater than eleven feet below mean low water, which is below the navigational depth of the channel. Since the proposed project includes widening and dredging of the Creek, radiological surveys will need to be performed during these activities. If remediation is necessary due to radioactivity identified in the creek sediment, the EPA may be approached as the OUIV cleanup will not have been completed. However, if the EPA does not agree to perform the remediation, then it will need to be addressed by the developer.

2.1.4.5 Li Tungsten Groundwater Quality

Groundwater flow direction beneath the site had been determined as part of the Remedial Investigation (RI). The RI indicated that groundwater flow direction was generally in a southerly direction. However, flow direction on eastern portions of the site (Parcel B) had a slight easterly component.

As explained in the above paragraphs, the EPA required that groundwater quality beneath the site be monitored for a period of 5 years. In September 2008, the first round of quarterly groundwater sampling, performed as part of the 5 year monitoring program, was completed by the EPA. This sampling event included the installation and sampling of a new monitoring well on Lower Parcel C and the sampling two existing monitoring wells (one on Parcel A and one on Parcel C). The sampling/well installation was performed in accordance with the Long-Term Groundwater Monitoring Plan prepared by URS in 2002 (2002 LTGMP).

The September 2008 sampling event included the analysis of three groundwater samples on the Li Tungsten Site (Parcels A, B, and C) for radium, thorium, and metals. Results indicate that radium concentrations were detected below NYSDEC Class GA GWQS in each sample. Thorium concentrations were also detected at insignificant concentrations, as not NYSDEC GWQS exist for thorium. However, metals including iron, arsenic, antimony and sodium were detected at concentrations exceeding the NYSDEC GWQS. It should be noted that the Class GA GWQS may not apply to this site due to the proximity to a saltwater body and the potential for saline

groundwater. In addition, the Report did not indicate whether appropriate sampling protocols to reduce turbidity were employed. Metals typically adhere to sediments in turbid groundwater samples and can generate elevated results. Results of the groundwater sampling event are detailed in the *Groundwater Monitoring Status Report – September 2008 Quarterly Sampling – Li Tungsten Superfund Site, December 2008*. Results and well locations are included in Appendix A.

Although the sampling program does not include analysis of VOCs and SVOCs, the potential for VOCs in groundwater exists due to impact from up-gradient, offsite sources and SVOCs in groundwater due to historic operations. In addition, only three wells on the Li Tungsten site are in the sampling program. It is recommended that groundwater sampling be performed in other areas of the site to determine concentrations of VOCs, metals and radionuclides.

2.1.5 Li Tungsten – Site Limitations

Based on the ROD and the ESD, the EPA requires that certain restrictions be imposed on the Li Tungsten site. These restrictions run with the real property and will be binding on parties who acquire the real property in the future. These restrictions include:

- Complete prohibition on groundwater use;
- Soil gas evaluation for volatile organic compounds (VOCs) and radon. The purpose of the soil gas evaluation would be to determine whether the presence of VOCs or radon in the subsurface soil might have the potential to adversely affect indoor air quality in building structures;
- The site is appropriate for residential use with further evaluation necessary for Parcel A, prior to a decision. At the request of the City in the late fall 2008, the EPA is performing this evaluation.

2.2 Captain's Cove

Captain's Cove is a State Superfund site with portions that were designated as a Federal Superfund site, associated with the Li Tungsten facility.

2.2.1 Captain's Cove Site Location and History

The Captain's Cove Site (Captain's Cove) is located on the western end of Garvies Point Road in Glen Cove, New York, (Figure 1). The site is bordered by Glen Cove Creek to the south, City-owned property (beach) to the west, the Garvies Point Road and Garvies Point Preserve to the north, and the Glen Cove Angler's Club to the east. The total Captain's Cove site encompasses approximately 23 acres, including an estimated 4 acres of tidal wetlands along the site's southern boundary bordering Glen Cove Creek.

Historically, the land at the Captain's Cove site was used as a port and for recreation including boating, fishing and swimming. Prior to the 1960s, two tidal channels and an associated marsh were prominent at the site. One narrow channel extended from Garvies Point Road (near what is currently the west gate) to the northwest portion of the wetland. The second tidal channel was broad and extended from Glen Cove Creek to just south of Garvies Point Road, on the east side of the site. Based on aerial photographs, the tidal channels were filled between 1966 and 1969 and the site became essentially flat.

Beginning in the late 1950s and continuing until approximately the late 1970's, the Captain's Cove site was predominantly used as a "community dump" by the City of Glen Cove for the disposal of incinerator ash, sewage sludge, rubbish, household debris, and creek sediments. The site was also used by local industry, including the former Li Tungsten operation for the disposal of industrial wastes. Low levels of radioactive ore residuals from the Li Tungsten facility were disposed of on the western and eastern ends of the property.

Captain's Cove was purchased by Village Green Realty at Garvies Point, Inc. (Village Green Realty) in 1983 with the intention of developing a residential complex at the site. Redevelopment efforts were abandoned in 1986 when the NYSDEC designated the property as a Class 2 Inactive Hazardous Waste Site (State Superfund Site) as a result of organic and inorganic contamination in soil and groundwater at the site. Several condominium structures (condo shells) were partially constructed on-site prior to the State Superfund designation and were never completed. These structures were demolished by the City of Glen Cove prior to the start of the remedial action.

A portion of the Captain's Cove site was delisted as detailed in an October 8, 1998 NYSDEC letter. The delisted area is located along the western and northern perimeter of the Captain's Cove Site. The delisting occurred as a result of a request by the City of Glen Cove based upon information gathered during the RI of the Site. Refer to Figure 3 for a plan view of the different areas of the site.

In 1995, the EPA added select portions of Captain's Cove, where radioactive ore residuals had been deposited, as part of the Li Tungsten site (OU11).

2.2.2 Captain's Cove Current Site Status

Presently, there is a paved "esplanade" walkway that runs from a paved parking lot on the west side, along the bulkhead adjacent to Glen Cove Creek and the wetland property to the eastern side of the property.

With the exception of the "esplanade" walkway and a small paved area on the western side of the Site, the property is unpaved and is relatively flat. A bulkhead constructed of steel sheeting occurs along the southern border of the property east and west of the wetlands. To the south of the bulkhead is Glen Cove Creek, tidal flats and the tidal wetlands portion of the Captain's Cove property. The wetlands in these areas consist of marshy flats covered in phragmites. Two large depressions, apparently created during remedial activities, exist in the center of the site and two man-made oblong stormwater retention ponds exist along the northern border of the site. Tall grasses, weeds, and phragmites are present throughout the central portion of the site. The vegetation along the northern border and around the two northern retention ponds consists of larger shrubs, trees and weeds.

Multiple monitoring wells are present at the site, Figure 3 for locations. A storm drain/catch basin is present in the central portion of the site.

2.2.3 Captain's Cove Summary of Regulatory Involvement

The NYSDEC was the first regulatory agency to be involved with Captain's Cove when it listed the site as an Inactive Hazardous Waste Site (i.e., New York State Superfund

Site #130032) on January 7, 1986. The NYSDOH has worked in conjunction with the NYSDEC during remedial activities at the site. The NYSDEC entered into an Order-on-Consent with Village Green Realty in 1988.

The NYSDEC entered into an Administrative Order-on-Consent with the City of Glen Cove in March, 1997 for the City to implement a remedial investigation/feasibility study (voiding the 1988 order with the former owner). Another Administrative Order-on-Consent was issued in May of 1999 to include the remedial design and remedial action. Although excavation activities mandated by NYSDEC are finished, the site is still listed as a New York State Superfund site and operation, maintenance & monitoring (OM&M) activities are ongoing. However, the NYSDEC has indicated that the site can be downgraded from its Class II designation if the City and the Developer agree to perform construction and OM&M activities through an SMP and Environmental Easement. As part of the NYSDEC Record of Decision (ROD), a long term monitoring program was instituted. The proposed OM&M program for the site included the following components:

- Groundwater monitoring;
- Subsurface soil gas monitoring (Removed from the OM&M requirements due to the lack of buildings);
- Vegetation inspection and maintenance;
- Fence inspection and maintenance; and
- Regulatory Reporting Requirements and Remedy Completion.

The OM&M activities will last for a period of approximately five years from completion of the remedial action.

Upon discovering radiological waste associated with the ore residuals from the Li Tungsten facility on portions of the Captain's Cove site, the NYSDEC requested that the EPA address this potential source of contamination. The EPA included those areas of Captain's Cove where ore residuals were disposed as part of the remediation of the Li Tungsten site and has performed this remedial work.

2.2.4 Captain's Cove Remedial Activities Previously Conducted

The NYSDEC remedial activities are discussed below followed by a discussion of the EPA's remedial activities. Figure 3 illustrates the approximate boundary of the excavation limits for both the NYSDEC and EPA areas of remediation.

2.2.4.1 Captain's Cove NYSDEC Investigation and Remedial Activities

The remedial investigation (RI) of Captain's Cove was performed at the site from May 1997 through December 1997. The purpose of the RI was to define the extent and nature of any contamination resulting from previous site activities. The results are documented in the *Captain's Cove Final Remedial Investigation Report, January 1999* (CC-RI). The RI identified four areas of environmental concern (AECs) detailed below:

- Elevated levels of metals in the groundwater in the western third of Captain's Cove, down gradient of Li Tungsten tailings;

- Elevated levels of VOCs in the groundwater in the northeastern corner of Captain's Cove, down gradient of the Mattiace Petrochemical Site;
- Elevated levels of VOCs and methane (from decomposition of waste) in soil gas as a result of municipal waste and fill in the central portion and the leaching of metals and VOCs through the soil and waste material; and
- Elevated levels of metals and organic compounds in the wetland sediments.

Of these four AECs, only the buried waste was directly associated with former landfill operations at Captain's Cove, therefore the subsequent feasibility study (FS) performed for the site focused only on this AEC. The FS included a test pit program designed to refine the boundaries of the buried waste. Test pit and analytical data for locations that fell outside of the excavated areas are presented on Figure 3B.

The remedial action (RA) mandated by the ROD for the State Superfund portion of the Site was conducted from May 1, 2001 to September 20, 2001 and consisted of excavation with off-site disposal of contaminated soil as well as post-excavation backfilling.

Soils were excavated until virgin/native material was encountered and in some instances were performed below the water table. Visual observations and field screening for VOCs and radiological contamination was performed during excavation to define the extent. Limits of the excavation were bounded by radiological waste areas to the east and west or the stormwater retention basins to the north and Glen Cove creek to the south.

Excavated materials were segregated, screened, stockpiled into 86 piles on-site, and sampled for characterization purposes. Samples were generally analyzed for SVOCs and metals. Of the 86 stockpiles, soil samples from 8 stockpiles exceeded the cleanup criteria for the site and were shipped off-site as non-hazardous waste. 78 stockpiles were approved by the NYSDEC for on-site reuse as fill material, including some material that had concentrations slightly in excess of the Recommended Soil Cleanup Objectives (RSCOs) contained in the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) No. 4046. The exceedances included SVOCs and metals. A review of the data indicated that all of the 78 stockpiles exceeded TAGM RSCOs for metals (copper and zinc) and as many as 76 stockpiles exceeded the SVOC objectives. The following table summarizes the number of stockpiles that had reported concentrations in excess of the TAGM RSCOs.

TABLE 1
Summary Captains Cove
On-site Stockpile Reuse TAGM RSCO Exceedances

Compound	TAGM RSCOs	Number of Exceedances	Highest Detection (ug/kg)
SVOCs ug/Kg			
Phenol	30	26	400 (J)
2-Methylphenol	100	1	380 (J)
4-Methylphenol	900	2	9,500
Benzo(a)anthracene	224	65	8,300 (D)
Benzo(b)fluoranthene	1,100	6	7,100 (D)
Benzo(k)fluoranthene	1,100	6	7,400 (D)
Benzo(a)pyrene	61	76	7,600 (D)
Chrysene	400	50	9,000 (D)
Dibenzo(a,h)anthracene	14	65	2,800
Indeno(1,2,3-cd)pyrene	3,200	2	4,900
Metals mg/Kg			
Arsenic	7.5	50	15.1
Barium	300	3	1,210
Beryllium	0.16	73	0.56
Cadmium	1 / 10 *	56 / 10	119
Chromium	10 / 50 *	76 / 3	91.6
Copper	25	78	2,400
Iron	2,000	78	68,200
Lead	61 / 200-500 / 729 **	75 / 10 / 3	2340
Mercury	0.1	77	1.9
Nickel	13	68	339
Silver	2.6***	6	24.1
Thallium	2.9***	27	13.5
Zinc	20	78	3,410

Notes:

* TAGM RSCO / Data compared to in summary table RACR

** TAGM background value for lead: urban / metropolitan / site specific cleanup goal

*** Site-specific cleanup goal

Following the excavation activities, the site was backfilled to near original grade. The 78 stockpiles equaled approximately 86,768 cubic yards (cy) of excavated material approved for reuse on-site as backfill. In addition 6,117 tons of recycled concrete aggregate (RCA) were produced from the demolition of the formed on-site condominium shells. Approximately 26,388 tons of imported RCA was brought on-site. RCA was placed in locations where the excavation extended below the water table. Imported RCA was sampled at an approximate frequency of one sample per 5,300 tons. An estimated 41,334 tons of imported fill material was utilized as the 2-foot thick surface cover layer, over the reused site soils. A plastic construction fence was installed below this cover layer as a marker for future activities. The imported fill came from a variety of sources and up to 22 samples were analyzed for metals, pesticides, VOCs, and SVOCs. No exceedances of RSCOs were reported for the imported fill, although information regarding the sampling protocol and frequency was not contained in the project documents. Therefore, the quality of the overburden will be confirmed.

Dredged sediments from Glen Cove Creek were also used as backfill within an area approximately 50 feet by 50 feet, along the south corner of the west retention pond. The NYSDEC later requested radiation screening of this area and it was reported below acceptable background level at the surface. However, it is possible that radioactive material is present in deeper reused dredge spoils since these spoils were placed prior to the EPA remedial action.

Off-site waste disposal volumes were: 8,121 tons of non-hazardous waste, and 44,079 tons of bulky waste/construction and demolition (C&D) landfill debris.

Remedial activities are documented in the 2004 Remedial Action Completion Report (RACR).

2.2.4.2 Captain's Cove EPA Remedial Activities

Radiological contamination at Captain's Cove originating from the Li Tungsten site has been investigated as OU II of the Li Tungsten site. The 1999 Li Tungsten ROD contained Sitewide Cleanup Levels (SWCLs) for arsenic, lead, radium-226 and thorium-232.

PARAMETER	SWCLS
Arsenic	24 mg/Kg
Lead	400 mg/Kg
Thorium-232	5 pCi/g *
Radium-226	5 pCi/g *

Notes:

mg/Kg = Parts per million (ppm)

pCi/g = picocuries/gram

* Background is approximately 1 pci/g for each isotope

The EPA mobilized to Captain's Cove in January, 2001 to perform the removal of the radioactive wastes from Area A, Area G, two ancillary areas known as Area A Prime and Area G Prime and a few small contaminated areas, refer to Figure 3 for locations. Areas were excavated using a grid approach.

EPA excavated radiologically impacted soils until SWCLs were achieved. However, soils impacted with metals were only excavated to the groundwater table. Area A excavation was performed in 2001 and covered approximately 8 acres. Excavation depths ranged from 2 to 14 feet below grade and ceased when reaching the "natural sandy background material", provided the radiological SWCLs were achieved. This was demonstrated by post-excavation sample results from the excavation floors that were within the radiological release criteria; however the northern and western walls of the excavation had elevated radiological levels and were remediated during the excavation of Area A Prime. Multiple post-excavation samples for the floor had exceedances of the SWCLs for arsenic, and/or lead. However, the EPA stated that these exceedances occurred only in cases where excavation extended to the top of the water table.

Area G excavation was performed in 2002 and covered approximately 1.5 acres to depths ranging from 3 feet to 14-feet below grade. Post-excavation sample results for floor samples met radiological release criteria. The walls of the northern and eastern portions of the excavation had elevated radiological levels and were remediated during the excavation of Area G Prime. Excavation ceased when "natural sandy background material" was reached, provided that the SWCLs for radiological

constituents were achieved. Multiple post-excavation samples for the floor had exceedances for arsenic (up to 235 mg/Kg at grid location T9, 12-14 feet deep) when compared to the SWCLs. However, the EPA stated that these exceedances occurred only in cases where excavation reached the water table. While excavating Area G Prime a buried barge was identified and was partially demolished during removal of soils.

Excavated material was segregated and staged in 10 stockpiles on site. Wastes disposed fell into the following categories:

- 86,482 tons of naturally occurring radiological material (“NORM”)
- 36,170 tons of non-hazardous
- 236 tons of hazardous waste
- 524 tons of mixed waste (NORM and hazardous)
- 1,317 tons of concrete and demolition type debris

Excavated areas were backfilled to pre-existing conditions. Details on backfill material were not contained in the *Remedial Action Report for Operable Unit 2 (Captain’s Cove Property) Excavation and Offsite Disposal of Contaminated Soil*, September 2006 (RAR-OU2).

As a result of the City’s post-ROD decision to allow for future residential development of the Li Tungsten and Captain’s Cove properties the EPA issued the May 2005 ESD, revising the SWCLs. The May 2005 ESD determined that the arsenic and lead criteria were sufficiently protective of future residential use; however, the ROD’s radiation criteria warranted minor modification to be protective. The resultant EPA SWCLs for the Li Tungsten Superfund Site (including Captain’s Cove) are as follows:

PARAMETER	SWCLS
Arsenic	24 mg/Kg
Lead	400 mg/Kg
Thorium-230 + Thorium 232	≤5 pCi/g + background *
Radium-226 + Radium-228	≤5 pCi/g + background *

Notes:

mg/Kg = Parts per million (ppm)
 pCi/g = picocuries/gram
 Background is approximately 1 pci/g for each isotope

The May 2005 ESD stated that post-excavation sampling shows that not only the original cleanup criteria but also the modified radionuclide criteria have been met; therefore, the excavated areas of the site meet residential standards.

2.2.4.3 Captain’s Cove Delisted Area

The delisted area at the west end of Captain’s Cove was Delisted at the request of the City based upon results of the RI. Data collected in this area are summarized on Figure 3B. The EPA limits of excavation appear to have encroached into this area.

As part of the GI-FVP (Glen Isle Field Verification Program) samples were collected from the delisted area. Sampling was performed via test pits and screened for the presence of radiation. No detections were reported. SVOCs were detected but it is suspected that the levels were a result of road base. These results are also summarized on Figure 3B.

However, the borings and test pits conducted as part of the RI and GI-FVP indicated that evidence of landfill type wastes are present in this area and further investigation/remediation may be warranted.

2.2.4.4 Captain's Cove – Groundwater Quality

Groundwater monitoring at Captain's Cove is performed as part of OM&M activities and samples are analyzed for VOCs, SVOCs, and metals. The OM&M Semi-Annual Report for January through June 2007, dated September 4, 2007, indicates five on-site monitoring wells were sampled and results for three of the five wells had exceedances of the NYSDEC Standards for VOCs, SVOCs, and/or copper. In general, many of the groundwater exceedances listed are over the standards, but some have decreased when compared to data from 2003. Groundwater sampling performed in October 2008 only included the sampling of three wells on the eastern side of the property. Sample results indicated the presence of VOCs and SVOCs in these samples. Results from this sampling event are contained in **Appendix A**.

Groundwater quality in the eastern portion of Captain's Cove is impacted by VOCs and metals from an off-site upgradient source, Mattiace Petrochemical (refer to Section 3.1) and Li Tungsten.

2.2.5 Captain's Cove Site Summary

Remedial activities as mandated by the NYSDEC and EPA RODs have been completed. However, some exceedances of the cleanup standards set by each agency remain on-site. Some of the on-site soils used as backfill contained concentrations in excess of the NYSDEC RSCOs, performed with NYSDEC approval. Borings or test pits performed outside the NYSDEC/EPA limits of excavation indicate evidence of landfill wastes in the delisted area and on the southeast portion of the site. Endpoint results for areas excavated by the EPA contained levels of arsenic and/or lead in soil, at or below the water table, above the Li Tungsten SWCLs that were also in excess of the NYSDEC RSCOs. Data for material used as backfill after the EPA excavation was not provided in the RAR-OUII report. However the report indicates that sampling and analysis was performed for each supplier and results were acceptable to EPA prior to backfilling.

Sampling of the tidal flats, tidal wetlands, sediments directly behind the bulkhead, and the retention ponds sediment were characterized as part of the RI; however, conditions should be verified now that remediation has been completed.

Groundwater quality, being monitored as part of Captain's Cove OM&M activities, contains exceedances, but appears to be improving in the western portion of the site. Groundwater in the eastern portion of the site is impacted by VOCs from an off-site upgradient source. Recent OM&M information and groundwater quality data are included in **Appendix A**. In addition to groundwater monitoring other OM&M activities include:

- Subsurface soil gas monitoring; (Removed due to the lack of buildings)
- Vegetation inspection and maintenance;
- Fence inspection and maintenance; and
- Regulatory Reporting Requirements and Remedy Completion.

2.2.6 Captain's Cove Site Limitations

Currently the NYSDEC ROD prohibits residential use of the Captain's Cove property. However the NYSDEC has informally stated that it will consider residential use providing appropriate engineering and institutional controls are implemented pursuant to an environmental easement and SMP. Primarily, these controls pertain to mitigating the potential for vapor intrusion, managing soils during construction, and preventing contact with soils. As mentioned in Section 2.2.4.2 the EPA as part of the May 2005 ESD evaluated the site for residential use and found their cleanup to meet residential standards for arsenic, lead and radionuclides. However, the SWCL for arsenic exceeds the Part 375 SCO. As previously mentioned, the areas of impact and potential data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.3 Angler's Club Site

2.3.1 Angler's Club - Site Location and Historic Uses

The Angler's Club Site is located on Garvies Point Road, in the City of Glen Cove, New York. The site is owned by the City of Glen Cove. The 0.9 acre site is utilized as a clubhouse and a marina and is bordered by Garvies Point Road to the north, Glen Cove Creek to the south, the Captain's Cove property to the west, and the Gladsky property to the east (see **Figure 1** for location). Anglers Club, along with the Gladsky property and the pumping station is identified as Section 21, Block A, Lot 12.

According to the Phase I ESA (May 2000), the site was developed between 1947 and 1950 with a building and boat storage and has been owned by the City of Glen Cove since at least 1956. The building is a one-story 1,250 square foot clubhouse, constructed of wood. The clubhouse is connected to the municipal water and sanitary sewer systems. According to the Phase I ESA (May 2000), a permit for a 1,000 gallon underground fuel oil tank was approved in 1967, however the Phase I ESA did not provide a copy of the permit or identify the agency that approved the tank. A site plan is illustrated on **Figure 4A**.

2.3.2 Angler's Club - Current Physical Site Conditions

The property is currently utilized as clubhouse and marina facility. Boats are currently stored on the property.

2.3.3 Angler's Club - Summary of Regulatory Involvement

A *Phase I Environmental Site Assessment (ESA)*, May 2000, and a *Phase II ESA*, December 2000 were performed for the site at the request of the City of Glen Cove Community Development Agency, under the EPA-funded Brownfields Assessment Demonstration Pilot Program.

2.3.4 Angler's Club – Environmental Investigations Previously Conducted

A Phase II Environmental Site Assessment was performed in April 2000 (report dated December 2000), and consisted of soil and groundwater samples. Areas of concern that were identified in the Phase I ESA and investigated in the Phase II ESA, include the underground fuel oil storage tank, areas of chemical storage, a metal-lined pit, the backflow prevention system discharge pipe, and the bulkhead area.

A total of four surface samples, three subsurface samples, one sediment sample from the metal-lined pit, and four groundwater samples were collected. Soil boring logs indicate that the soil consists primarily of silt and sand. Trace brick and asphalt were noted at two boring locations, which are indicative of fill material.

Soil, sediment and groundwater samples were submitted for various analyses, based upon the ESA findings and included VOCs, SVOCs, PCBs/Pesticides, TAL Metals (total and dissolved for groundwater), and cyanide. Additionally, soil samples were submitted for asbestos analysis.

Analytical results were compared to the NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs) for soil and sediment, which were the cleanup objectives at this time, and the NYSDEC Groundwater Quality Standards. Soil and sediment results were also compared to the EPA Region III Risk-Based Concentrations (RBCs) for Industrial Land Use. The Phase II noted that the groundwater salinity across most of the site meets the definition of saline water (Class GSA), for which there are no chemical specific standards.

Soil

SVOCs were detected above the NYSDEC RSCOs, but below the EPA RBCs in one surface and two subsurface samples. Compounds detected above the RSCOs include benzo(a)anthracene, chrysene, benzo(a)pyrene and dibenzo(a,h)anthracene.

Metals including arsenic, barium, beryllium, cadmium, cobalt, copper, iron, lead, mercury, nickel, selenium, and zinc were detected above the NYSDEC RSCOs in two surface soil samples, the sediment sample, and three subsurface soil samples. Additionally, arsenic was detected above the EPA RBC in five soil samples. Soil sample locations and results are shown on **Figure 4A**.

Groundwater

VOCs, including bromomethane, 1,1-dichloroethene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene were detected above the NYSDEC Groundwater Quality Standards in one of the four groundwater samples collected.

Metals were also detected in all four groundwater samples above the NYSDEC RSCOs. Metal concentrations generally decreased in filtered samples, with the exception of antimony, magnesium, and sodium. Groundwater sample locations and results are shown on **Figure 4B**.

The Phase II ESA indicated that the Angler's Club Site is possibly hydraulically downgradient of Mattiace, which may account for the VOCs detected in groundwater. Environmental conditions of Mattiace are discussed in Section 3.1.

Based upon the findings of the investigation, the Phase II ESA concluded that the levels of SVOCs and metals in the soils did not warrant remediation since the planned development for the site, at that time, did not include residential use. No remedial activities have been conducted at the Angler's Club Site.

While residential buildings are not included in the proposed development plan for this site, it will likely be utilized as a public park and esplanade that will connect the Captain's Cove site to the Li Tungsten Site. As explained in the paragraphs above, areas of impacted soils and groundwater exist on the Anglers Club site. These include areas containing elevated concentrations of SVOCs and metals in the soils and VOCs in the groundwater. Areas of impact are shown on Figure 4A and 4B.

The Angler's Club Site is also downgradient of the Mattiace Petrochemical federal Superfund site that is likely impacting groundwater quality beneath the site. Refer to Section 3.1 for additional details concerning Mattiace.

2.3.5 Angler's Club Summary

No evidence of leak testing or abandonment of the underground storage tank was provided in the Phase II ESA. If the underground storage tank has not been properly abandoned or removed, registration and removal will be required by the Developer.

SVOCs and metals are present in excess of NYSDEC RSCOs in surface soil and sediment. No remediation was proposed due to the non-residential anticipated use at the time. However, the proposed use has been changed to a public park. A radiological survey is recommended due to the site's proximity to Li Tungsten and Captain's Cove and the creek.

The migration of groundwater contamination beneath the Angler's Club Site from off-site sources may present a vapor intrusion issue and should be evaluated if buildings are proposed.

Based on the age of the building, the potential for asbestos containing material (ACM) and lead based paints exists. The demolition of this structure will be handled in accordance with federal, state and local ACM and LBP regulations. Soil vapor sampling and/or mitigation measures will be performed by the developer to evaluate the potential for intrusion into proposed structures.

The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.4 Gladsky Site

2.4.1 Gladsky - Site Location and Historic Uses

The Gladsky Site is located on Garvies Point Road, within the City of Glen Cove, New York. The site is owned by the City of Glen Cove. The approximately 0.8 acre site was utilized as a boat maintenance and repair facility and is bordered by Garvies

Point Road to the north, Glen Cove Creek to the south, the Angler's Club Site to the west, and the City of Glen Cove Sewage Treatment Plant Pumping Station to the east (see **Figure 1** for location). The Gladsky Site, along with the Angler's Club Site and the pumping station are all located on the same tax lot, Section 21, Block A, Lot 12.

According to the Phase I ESA (May 2000), the site was developed between 1947 and 1950 and has been owned by the City of Glen Cove since at least 1956. In 1957 the property was used as a sand/gravel facility with a mixing tower and stockpiles. Gladsky Marine occupied the site from the 1970s to 1999 at which time the existing building was constructed. The building is a one-story 396 square foot office which was reported to be connected to the municipal water and sanitary sewer systems. The site plan is shown on **Figure 4A**.

2.4.2 Gladsky - Current Site Status

One small building exists on the Gladsky Site and is currently vacant.

2.4.3 Gladsky - Summary of Regulatory Involvement

A *Phase I Environmental Site Assessment (ESA), May 2000*, a *Phase II ESA, December 2000*, and a *Supplemental Phase II ESA, September 2002*, were performed for the site at the request of the City of Glen Cove Community Development Agency, under the EPA-funded Brownfields Assessment Demonstration Pilot Program. The Phase I ESA and Phase II ESA were performed in conjunction with Angler's Club Site. The supplemental Phase II ESA was performed on the Gladsky property only. Based upon the investigation results, the Gladsky site was admitted into the 1996 Bond Act NYSDEC Environmental Restoration Program (ERP) for remediation funding. A Proposed Remedial Action Plan (PRAP) was prepared for the Gladsky property in January 2006. A Record of Decision was finalized in March 2006. The site number is E1-30-152.

2.4.4 Gladsky - Environmental Investigation Previously Conducted

According to the Phase I ESA, an Environmental Assessment (EA) was performed by Impact Environmental in 1992 for the Gladsky Site. The focus of the EA was an asbestos investigation. Thirteen soil samples were collected from the fill material throughout the site since friable asbestos was suspect. Eight samples were submitted for analysis; six of the samples were positive for asbestos. The conclusion of the investigation stated that a "...large area of the property has been contaminated with asbestos containing building materials".

A Phase II Environmental Site Assessment was performed in April 2000 (report dated December 2000), and consisted of soil and groundwater samples. Areas of concern that were identified in the Phase I ESA, and investigated in the Phase II ESA included topographically low areas, oil stained areas, soil containing ash and rusted metal flakes, the sewer pipe, and the bulkhead area. A total of seven surface, four subsurface, and five groundwater samples were collected. Soil boring logs indicate that the soil consists primarily of silt and sand. Trace brick and asphalt were noted at two boring locations, which are indicative of fill material.

Soil and groundwater samples were submitted for various analyses, based on identified concerns and included VOCs, SVOCs, PCBs/Pesticides, TAL Metals (total

and dissolved for groundwater), and cyanide. Additionally, six soil samples were submitted for asbestos analysis.

Analytical results were compared to the NYSDEC RSCOs that existed at the time, and the NYSDEC Groundwater Quality Standards. Soil analytical results were also compared to the EPA Region III Risk-Based Concentrations (RBCs) for Industrial Land Use. Additionally, it was noted that the groundwater salinity across most of the site meets the definition of saline water (Class GSA), for which there are no chemical specific standards.

Soil

SVOCs were detected above the NYSDEC RSCOs in four surface samples and one subsurface sample. SVOCs were also detected above the EPA RBCs in one surface sample. SVOCs detected above the RSCOs include phenol, as well as polycyclic aromatic hydrocarbons (PAHs) including benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene indeno(1,2,3-cd)pyrene, and dibenzo(a,h)anthracene.

One PCB (Aroclor-1254) was detected above the NYSDEC RSCO, but below the EPA RBC in one surface sample.

Metals including arsenic, barium, beryllium, cadmium, cobalt, copper, iron, lead, mercury, nickel, selenium, and zinc were detected above the NYSDEC RSCOs in four surface, and three subsurface soil samples. Additionally, arsenic was detected above the EPA RBC in five soil samples, with the high concentration of 3,380 mg/kg.

Asbestos was detected above 1% in four of the samples analyzed (two surface and two subsurface samples). Asbestos greater than 1% indicates an asbestos containing material.

A Supplemental Phase II Environmental Site Assessment was performed in 2002 at the Gladsky Site to delineate the vertical extent of surface soil contamination. Twenty-one soil samples were collected from eight locations to a total depth of two feet, and submitted for PAH and metal analyses. The PAH compounds and metals identified in the Phase II ESA were also detected above the RSCOs and EPA RBCs throughout the property. Conclusions indicate that contaminants are present above the standards to a depth of at least two feet below grade. Subsurface samplings performed from depths 4-6 feet appear to limit the extent of impact to this depth interval. Soil sample locations and results are shown on **Figure 4A**.

Groundwater

VOCs, including vinyl chloride, 1,1-dichloroethane, 1,2-dichloroethane, and trichloroethene, were detected above the NYSDEC Groundwater Quality Standards in one of the four groundwater samples collected.

Metals were also detected in all four groundwater samples above the NYSDEC Groundwater Quality Standards. Metal concentrations generally decreased in filtered samples, with the exception of antimony, magnesium, manganese, and sodium. Groundwater sample locations and results are shown on **Figure 4B**.

The Phase II ESA indicated that the Gladsky property is possibly hydraulically downgradient of Mattiace and Li Tungsten, which may account for the VOCs detected in groundwater. Environmental conditions of Mattiace are discussed in Section 3.1.

2.4.5 Gladsky–Summary/Restrictions

Areas of impacted soils and groundwater are documented relative to the Gladsky site. These include areas containing elevated concentrations of SVOCs, PCBs and metals in the soils and VOCs in the groundwater. Areas of impact are shown on **Figures 4A and 4B**.

NYSDEC issued a Preliminary Remedial Action Plan (“PRAP”) in January 2006 and a ROD in March 2006 for the Gladsky property. The selected remedy includes:

- A radiological contamination survey due to the site’s proximity to Li Tungsten and Captain’s Cove;
- The excavation of contaminated soil above NYSDEC RSCOs (minimum of 2 feet across site) and off-site disposal;
- A site management plan which addresses residual contaminated soils that may be excavated as part of future redevelopment and the evaluation of vapor intrusion for any proposed buildings;
- Institutional control in the form of an environmental easement which restricts the use of groundwater and ensures compliance with the site management plan; and
- Periodic certification of the institutional controls by a Professional Engineer

Remedial activities have not yet begun. However, the City has been approved to perform the remedial activities under the NYSDEC ERP Program.

2.5 City of Glen Cove Pumping Station

2.5.1 Pumping Station - Site Location and Historic Uses

The City of Glen Cove Sewage Pumping Station property is located on Garvies Point Road, in Glen Cove, New York. The site is owned by the City of Glen Cove. The approximately 0.2 acre site is utilized to transfer municipal wastewater to the City of Glen Cove Sewage Treatment Plant located to the south, across the Glen Cove Creek. The Pumping Station is bordered by Garvies Point Road to the north, Glen Cove Creek to the south, Gladsky to the west, and Doxey to the east. The Pumping Station, along with the Anglers Club and the Gladsky property is identified as Section 21, Block A, Lot 12. A site plan is depicted on **Figure 4A**.

According to the Phase I ESA (May 2000), the site was developed between 1947 and 1950 and has been owned by the City of Glen Cove since at least 1956. In 1957 the property was used as a sand/gravel facility with a mixing tower and stockpiles. The pump house was constructed in 1966.

2.5.2 Pumping Station - Current Physical Site Conditions

This Site contains a small pump house building and is used to transfer municipal wastewater to the City of Glen Cove Sewage Treatment Plant located to the south, across the Glen Cove Creek.

2.5.3 Pumping Station - Summary of Regulatory Involvement

A Phase I Environmental Site Assessment (ESA), May 2000, was performed for the Site at the request of the City of Glen Cove Community Development Agency, under the EPA-funded Brownfields Assessment Demonstration Pilot Program. In addition, a Phase II ESA was also performed for the Pumping Station in January 2005.

2.5.4 Pumping Station - Environmental Investigation Previously Conducted

A Phase II Environmental Assessment was performed, and consisted of soil and groundwater samples. The Phase II ESA indicated that the soil consists primarily of silt and sand, with lenses of clay.

The portions of the report that were provided indicate that six soil samples were collected from four locations, and two groundwater samples were collected. Soil and groundwater samples were submitted for VOCs, SVOCs, PCBs/Pesticides, and metals (total and dissolved for groundwater) analyses. In addition, soil samples were submitted for asbestos analysis.

Analytical results were compared to the NYSDEC RSCOs for soil that existed at the time, and the NYSDEC Groundwater Quality Standards. Additionally, it was noted that the groundwater salinity across most of the site meets the definition of saline water (Class GSA), for which there are no chemical specific standards. Figures identifying sample locations were not included in the portion of the report that was provided.

Soil

SVOCs (benzo(a)anthracene and benzo(a)pyrene) were detected above the NYSDEC RSCOs in one surface sample and one subsurface sample.

Metals including arsenic, copper, iron, mercury, and zinc were detected above the NYSDEC RSCOs in five samples (both surface and subsurface). Soil sample locations and results are shown on **Figure 4A**.

Groundwater

VOCs, including vinyl chloride, cis-1,2-dichloroethene, and trichloroethene, were detected above the NYSDEC Groundwater Quality Standards in one groundwater sample collected.

Metals were also detected in two groundwater samples above the NYSDEC RSCOs. Metal concentrations generally decreased in filtered samples. Groundwater sample locations and results are shown on **Figure 4B**.

The Phase II ESA indicated that the Pumping Station is possibly hydraulically downgradient of Mattiace and Li Tungsten, which may account for the VOCs detected in groundwater. Environmental conditions of Mattiace are discussed in Section 3.1.

2.5.5 Pumping Station Summary/Restrictions

As explained in the above paragraphs, areas of impacted soils and groundwater exist on the Pumping Station site. These include areas containing elevated concentrations of SVOCs and metals in the soils and VOCs in the groundwater. It is also possible

that contaminants associated with sanitary wastes may be present in the subsurface. Building structures are not proposed for this site, should development be proposed for this parcel evaluation for the potential of soil vapor intrusion is warranted.

There has not been an evaluation for radiological contamination at the site. Due to the site's proximity to Li Tungsten and Captain's Cove, a radiological survey is warranted.

The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.6 Doxey Site

2.6.1 Doxey - Site Location and Historic Uses

The Doxey Site is located at 10 Garvies Point Road, in Glen Cove, New York. The site is owned by the City IDA. Prior to 1944 and until as late as 1992, the site was used for the storage and distribution of petroleum. The most recent property use includes the storage of construction equipment, vehicles and materials. The Doxey Site is bordered by Garvies Point Road and the Li Tungsten Site to the north, Glen Cove Creek to the south, the City of Glen Cove Sewage Treatment Plant Pumping Station to the west, and Li Tungsten to the east. A site plan is presented in **Figure 5A**.

2.6.2 Doxey - Current Physical Site Conditions

A Phase I ESA performed for the property on behalf of the City in 1999 indicates two wood frame buildings, a one-story office building approximately 215 square feet and a garage that is 528 square feet. Three aboveground storage tanks are present but not currently in use and have been rendered unusable by cutting a doorway into each tank. Currently the tanks are used for storage. A 500 gallon aboveground storage tank for heating oil is present at the site and is currently in use.

2.6.3 Doxey - Summary of Regulatory Involvement

The NYSDEC has included the Doxey Site in the NY Spills and Leaking UST (LUST) databases as a result of site operations prior to 1999. According to previous environmental reports, the associated spill files were subsequently closed. However, information has been recently provided, that Spill File 92-09888 is still open. No additional information regarding this Spill File is available. It is recommended that the status of this Spill and its location be determined.

2.6.4 Doxey - Environmental Investigation Previously Conducted

A Phase I ESA for the Doxey Site was completed in September of 1999. Based upon the findings, including historic spills, site uses, and proximity to other sites of potential concern, a Phase II ESA was recommended. The Phase II ESA was performed in two phases due to property access issues. A sampling program was initiated in October of 2000, which included the collection of surface soil, shallow

subsurface soil and groundwater samples. This sampling program was not completed until property access was re-established in September of 2006.

Twelve surface soil samples, fifteen subsurface (2 to 10 ft below grade) soil samples and eight groundwater samples were collected and submitted for VOCs, SVOCs, PCBs/Pesticides, cyanide and metals (total and dissolved for groundwater) analyses as part of the Phase II ESA. In addition, one surface and two subsurface soil samples were submitted for asbestos analysis. The locations of former and existing tanks, historical site operations and areas used for the storage of drums, vehicles and heavy equipment were considered when choosing sample locations.

Analytical results were compared to the NYSDEC RSCOs for soil applicable at the time, and the NYSDEC Groundwater Quality Standards. Several SVOCs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and dibenzo(a,h)anthracene, were detected above the NYSDEC RSCOs in ten of the twelve surface soil samples collected and one subsurface sample (6 to 8 ft below grade). In addition, 2-Methylnaphthalene was detected above the NYSDEC RSCO in one subsurface soil sample (6 to 8 ft below grade). SVOCs, including 4-methylphenol, naphthalene, phenanthrene and benzo(b)fluoranthene, were detected above NYSDEC Groundwater Quality Standards in six of the eight groundwater samples collected.

Metals, including arsenic, beryllium, cobalt, copper, iron, mercury, nickel, selenium and zinc were detected above the NYSDEC RSCOs in all of the surface and subsurface soil samples. A total of nine metals (antimony, barium, copper, iron lead, magnesium, manganese, selenium and sodium) were detected above NYSDEC Groundwater Quality Standards in seven of the eight groundwater samples collected at the Doxey Site.

VOCs, including acetone and 2-butanone, were detected above RSCOs in two subsurface soil samples; however VOCs were not detected above RSCOs in any of the surface soil samples. Several VOCs, including acetone, 2-butanone, benzene, isopropylbenzene, ethylbenzene, toluene and total xylenes, were detected above the NYSDEC Groundwater Quality Standards in five of the eight groundwater samples collected, including a sample collected at the northern border of the Doxey Site which suggests the migration of contaminants from upgradient sources.

One pesticide, aldrin, was detected above its RSCO in one surface soil sample, however total pesticides in the sample were well below the associated standard. No pesticides were detected above RSCOs in any of the subsurface soil samples. PCBs were not detected at concentrations above RSCOs in any of the surface or subsurface soil samples. Neither PCBs nor pesticides were detected above NYSDEC Groundwater Standards in any of the groundwater samples at the Doxey Site.

Asbestos was not detected in any of the surface or subsurface soil samples. Soil sample locations and results are shown on **Figure 5A**, while groundwater sample locations and results are shown on **Figure 5B**.

2.6.5 Doxey– Summary/Restrictions

Areas of impacted soils and groundwater exist on the Doxey site. These include areas containing elevated concentrations of SVOCs, pesticides and metals in the soils and VOCs in the groundwater. Areas of impact are shown on Figure 5A and 5B.

Additional delineation of contaminated soil is warranted so that the extent of remediation can be determined. In addition, it is recommended that the status of NYSDEC Spill File 92-09888 be determined.

Based on the age of the building, the potential for asbestos containing material (ACM) and lead based paints exists. The demolition of this structure will be handled in accordance with federal, state and local ACM and LBP regulations.

The existence of VOC groundwater contamination beneath the Doxey Site may present a vapor intrusion issue that should be evaluated if buildings are proposed.

The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

2.7 Gateway Properties

The Gateway Properties are located east of Li Tungsten Parcel A and include the following tax lots in Section 21, Block A:

- Lot 220 – This lot is utilized by Windsor Fuel Facility and is located at 45 Charles Street.
- Lot 320 - This lot is utilized by Windsor Fuel Facility and is located at 45 Charles Street.
- Lot 659 – This lot is utilized by Windsor Fuel Facility and is located at 45 Charles Street.
- Lot 661 – This lot is utilized as an office building and is located at 45 Herb Hill Road.
- Lot 662 - This lot is utilized as an office building and is located at 45 Herb Hill Road.
- Lot 664 – This lot is utilized by Nassau Ready Mix, a concrete company, and is located at 47 Herb Hill Road.
- Lot 667 - This lot is utilized by Brilliant Air and is located at 49 Herb Hill Road.

The Gateway Properties are shown on **Figure 6**. These properties are not yet owned by the developer or the City of Glen Cove, but are in the process of being acquired and are included in the GI Subject Properties and the proposed development. A Phase I ESA of these properties has recently been performed by PWGC in January 2009. The Phase I ESA identified recognized environmental conditions and recommended additional investigation to determine soil and groundwater quality. Specifically, the Phase I ESA identified the following RECs:

45 Charles Street (Lots 220, 320, and 659)

- A portion of the subject site is operated as a fuel oil storage facility. Historic spills are present related to this use. Based upon this current and historical site use, there is potential for the subject site to have been impacted by petroleum spills.

47 Herb Hill Road (Lot 664)

- This portion of the subject site was identified as a RCRA-Small Quantity Generator (SQG) with respect to operations by former operator, Lightning Autobody. Improper chemicals handling can lead to impacts at the subject site.
- The site was identified as a Solid Waste Facility related to receiving construction and demolition debris as part of the site's current concrete manufacturing operations. These operations may have resulted in site impacts.
- This portion of the subject site has a LTANK listing related to a failed tank test of a 4,000 gallon diesel tank. The tank was removed and no signs of impact were noted. The spill was closed by the NYSDEC. This LTANK listing no longer represents an environmental concern to the subject site.

45 Herb Hill Road (Lots 661 and 662)

- An adjoining lot was operated as a coal fired power plant / electrical substation. Portions of the power plant operation extended onto the subject site (Lot 661 and 662). The operations on the subject site included an electrical storage building and a portion of the electrical substation transformer pad, and transformer storage. Based upon this use, there is potential for the site to have been impacted by coal ash (Semi-Volatile Organic Compound (SVOC) contamination) and PCBs from transformers.

General Gateway Property Issues

- The Gateway Properties are collectively located in the direct vicinity of several superfund, state hazardous waste sites, and spill sites. Based upon the proximity of the spills and their magnitude, there is potential for the groundwater beneath these properties to have been impacted by solvents, petroleum, SVOCs, and metals. Creek sediments in the vicinity of the Gateway Properties may also be impacted by those compounds as well as radionuclides.

The Phase I ESA recommended that additional investigation and sampling be performed. Specifically, the Phase I ESA recommended the following:

All Gateway Properties

- Since no direct site inspection was performed, a detailed site inspection should be performed to locate potential additional onsite areas of concern. Such areas should be inspected / sampled as appropriate.
- Sample creek sediments in the vicinity of the subject site. Sediments should be assessed for VOCs, SVOCs, Metals, PCBs and Pesticides for disposal purposes. In addition, due to potential for impacts from the LI Tungsten site, they should be sampled for radionuclides as well.

45 Charles Street (Lots 220, 320, and 659)

- Sampling of soil and groundwater for VOCs and SVOCs in the vicinity of the active and historic fuel oil tanks associated with the Windsor Fuels property.

45 Herb Hill Road (Lots 661 and 662)

- Sampling of soils and groundwater in the western portion of the property associated with the former power plant / electrical substation. Sampling at a minimum should be for SVOCs, metals, and PCBs.

- Groundwater samples should be collected along the western and northern property lines to screen for impact migrating from off-site upgradient sources, such as LI Tungsten, Powers Chemco, Konica Minolta, and Crown Dykman.

47 Herb Hill Road (Lot 664)

- Investigate the area used by Lightning Autobody. If there is evidence of spills or the potential for spills to have occurred, soil and groundwater samples should be collected as appropriate.

Recommended Phase II activities will likely be performed by the Developer prior to acquiring the properties and prior to development.

3.0 Adjacent Properties

The commercial/industrial parcels surrounding the GI Subject Properties, which have the potential to impact their environmental integrity include: Mattiace, Crown Dykman, Konica Minolta, and Slantfin. A map of the GI Subject Properties and surrounding properties is provided as **Figure 1**.

3.1 Mattiace

3.1.1 Mattiace - Site History/Location

The Mattiace Petrochemical Federal Superfund Site is located on Garvies Point Road in Glen Cove, New York (**Figure 1**). The Mattiace Site is bordered to the north by Li Tungsten (Parcel C Prime), to the south by industrial properties (Angler's Club/Pumping Station/Gladsky beyond the industrial properties), to the east by an industrial property (Li Tungsten Parcel C beyond that), and to the west by an industrial and vacant/undeveloped properties. The approximately 2-acre site is an inactive chemical distribution and drum cleaning facility that operated from the mid-1960's until 1987. During this period, the primary operations at the Mattiace Site were the storing, blending and repackaging of organic solvents. In addition, Mattiace operated the M&M Drum Cleaning Company on the site until 1982. Structures that existed on the Mattiace Site during the operational period included a Quonset hut, shed, concrete loading dock, 32 USTs and 24 ASTs.

3.1.2 Mattiace - Current Physical Site Conditions

The structures mentioned above that are related to historic site operations are no longer present at the Site. These structures were demolished in the late 1980's after chemical storage and distribution services were shut down. Currently, a soil vapor and groundwater extraction and treatment system exists at the site. A large industrial building at the site is used to house the controls for the system. In addition, the treatment system includes a soil vapor extraction (SVE) system and wells, groundwater extraction wells, groundwater injection wells, groundwater monitoring wells, and associated piping. The SVE and groundwater treatment systems are still in operation.

3.1.3 Mattiace - Summary of Regulatory Involvement

Operations ceased at the Mattiace Site and the property was seized by the State of New York in 1987 after seven years of failed negotiations and litigation regarding

multiple violations of environmental laws. An EPA letter, dated July 8, 1988, was sent to William, Otto, and Louis Mattiace, notifying them of their status as potentially responsible parties at the Mattiace Site. The letter also provided them with the opportunity to remediate the Site through an EPA consent Order. After no good faith offers were received by the EPA in response to this notification, EPA placed a lien on the property in August, 1988. The EPA maintained control of the site until July of 2003, when a private company assumed responsibility for long-term operation of the facility under an agreement with the EPA and several potentially responsible parties. The EPA continues to provide oversight of facility operations, including the ongoing remedial efforts detailed below.

3.1.4 Mattiace Remedial Activities Previously Conducted

In 1988, the EPA removed more than 120,000 gallons of hazardous liquids from the Mattiace Site, including 100,000 gallons of flammable liquids, 20,000 gallons of contaminated water and 1,800 gallons of liquids containing polychlorinated biphenyls (PCBs). Some cylinders and empty tanks were reclaimed by their owners. The remaining chemical containers and all other hazardous materials were transported to EPA-approved disposal facilities

In February of 1988, the EPA performed a remedial investigation at the Site. A geophysical survey indicated that several areas in and around the Site should be investigated further due to the possibility of buried drums and hazardous waste. As a result, the EPA initiated a second operable unit (OUII) focused feasibility study (FFS) in December, 1989 to further delineate these findings. All other elements of the Mattiace Site investigation (i.e., groundwater investigations, etc.) were designated as first operable unit (OUI).

The excavation of test trenches and test pits, performed as part of the OUII FSS, identified an area containing approximately 25 buried drums and brake fluid containers along the Mattiace Site's northwest boundary. Sampled drum sludge was found to contain high concentrations of VOCs, including toluene (220,000 ppm) and 4-methyl-2-pentanone (1,600 ppm), as well as lesser concentrations of SVOCs. Soil samples contained high concentrations of toluene (35,000 ppm), ethylbenzene (1,600 ppm), total xylenes (7,300 ppm) and lead (4,280 ppm).

As a result of the OUII FSS findings, the OUII Record of Decision (ROD) was signed in 1990 to specifically address the removal and off-site treatment and disposal of drums and contaminated soil in the drum burial area. The EPA completed the excavation and off-site disposal of approximately 400 buried drums and contaminated soil in the spring of 1992.

In June of 1991, the EPA completed a comprehensive remedial investigation and feasibility study (RI/FS) of soil and groundwater contamination at the Mattiace Site. Soil contamination was determined to be extensive across the entire Mattiace Site, with "hot spots" of contamination occurring in several locations. Soil contaminants of concern and their maximum concentrations included tetrachloroethylene (410 mg/kg), trichloroethylene (37 mg/kg), xylenes (2,600 mg/kg), and 1,4-alpha chlordane (9 mg/kg). Concentrations of VOCs were generally associated with seven groups of USTs.

The RI/FS also identified severe groundwater contamination in the Upper Glacial aquifer, including a localized layer of "floating product" at the top of the groundwater

table. The "floating product" consisted of approximately 15,000 gallons of a mixture of organic chemicals, including total xylenes (6% by weight), trichloroethylene (12% by weight), tetrachloroethylene (10%), and toluene (12%). Excluding the "floating product", identified groundwater contaminants of concern and their maximum concentrations included tetrachloroethylene (100 mg/L), trichloroethylene (230 mg/L), chloroform (81 mg/L), ethylbenzene (370 mg/L), xylenes (422 mg/L), methylene chloride (750 mg/L), isophorone (57 mg/L) and 1,2-dichlorobenzene (5.3 mg/L). The direction of groundwater flow in the vicinity of the Mattiace Site was determined to be in the southwest direction toward Glen Cove Creek and essentially towards many of the GI Subject Properties.

The RI/FS findings were addressed in the OUI ROD, signed in June of 1991. The selected remedy included in-situ soil vapor extraction, limited excavation of soil contaminated with pesticides, removal of all USTs, ASTs, and cisterns, and groundwater pumping and treatment. The removal of all USTs, ASTs, cisterns and associated piping was completed in the fall of 1996. The EPA completed construction of onsite groundwater treatment and SVE systems in August of 1998. Long-term operation for both systems began in September of 1999. The groundwater treatment system and SVE system were designated as OUIII and OUIV, respectively. In addition, a temporary extraction system (OUXI) was installed to remove the "floating product", or light non-aqueous phase liquid (LNAPL), prior to operation of the SVE and groundwater treatment systems in June of 1999. Some of the contaminants detailed above are considered dense non-aqueous phase liquids (DNAPL), and as such the temporary extraction system may not have removed these contaminants.

3.1.5 Mattiace - Remedial Activities Remaining

Remedial efforts, including operation, maintenance and monitoring of the SVE and groundwater treatment systems, is ongoing at Mattiace Site. Contaminant concentrations in groundwater decreased substantially when the pump-and-treat system first became operational, but have leveled off during sampling events over recent years. Alternative remediation strategies are currently being investigated to meet remediation goals more efficiently.

3.1.6 Mattiace - Remaining Areas of Concern

Recent groundwater sampling events have shown elevated concentrations of site contaminants in monitoring wells on neighboring properties both to the west and south of the Mattiace Site. Concentrations of tetrachloroethene, trichloroethene, ethylbenzene and xylenes have been detected at levels above their respective standards in off-site wells, especially in wells immediately southwest of the Site. Considering recent groundwater data and the prevailing direction of groundwater flow, it is likely that groundwater contaminants have migrated from the Mattiace Site to the south and southwest toward Glen Cove Creek. Therefore, groundwater quality beneath the Gladsky Site, Angler's Club Site, and the eastern portion of Captain's Cove has likely been impacted. Groundwater beneath these sites should be further assessed to determine whether concentrations of VOCs pose a vapor intrusion hazard for future building construction.

3.2 Crown Dykman

3.2.1 Crown Dykman - Site History/Location

The Crown Dykman Site is located at 66 Herb Road in Glen Cove, New York. The property is approximately one-acre in size and contains a one-story cinder block and brick building. The site is bordered by Li Tungsten, Parcel A to the south and Parcel B to the west. The Site is also bordered to the north by an industrial property and to the east by Konica Minolta. Dykman Laundry and Cleaners operated at the site from 1932 to 1975. Crown Uniform Service operated at the site from 1975 to 1983 and used both Stoddard Solvent (a petroleum-based mixture also known as varnoline) and tetrachloroethylene (PCE) during this period. Several different commercial tenants occupied the site after 1983, including auto repair businesses (F.B. Filpse Auto and Northbound Motors), S&W Cleaners, and a woodworking shop (Proyarq 4-5, Inc.). The woodworking shop reportedly stored and used various lacquers and thinners.

3.2.2 Crown Dykman - Current Physical Site Conditions

The building at the Crown Dykman Site is currently occupied by an auto repair facility and a commercial (water-based) cleaner. According to the NYSDEC-approved *Proposed Project Management Work Plan, March 2007*, S&W Commercial Laundry does not use solvents in their operations, and occupies approximately 6,000 square feet of the northern end of the building. A Volvo auto repair business (ARAW) occupies approximately 5,500 square feet of the southern portion of the building. There are approximately six existing groundwater monitoring wells at the site (MW-1, MW-1D, MW-2, MW-3, MW-4 and MW-5).

3.2.3 Crown Dykman - Summary of Regulatory Involvement

In 1987, the Nassau County Department of Health (NCDH) collected a soil sample from a two foot by four foot pit located within the northeastern interior of the building at the Crown Dykman Site. The associated analytical results showed detections of PCE, 1,1,1-trichloroethane (1,1,1-TCA), toluene and xylenes. The NYSDEC provided oversight for preliminary site investigations and remedial efforts in the early-1990's. As a result of these preliminary investigations, the NYSDEC listed the site as a New York State Superfund Site and performed the investigation. On April 16, 1996, Herhill Associates entered into a Consent Order with the NYSDEC in which Herhill Associates agreed to perform a RI/FS and an interim remedial measure (IRM). Currently, the NYSDEC continues to oversee investigations and remedial efforts at the Site.

3.2.4 Crown Dykman - Remedial Activities Previously Conducted

Between 1990 and 1991, two 2,000-gallon solvent USTs, two 550-gallon USTs (contents not specified), and a 1,000-gallon gasoline UST were closed and removed from the Site. In addition to the tanks, a drum labeled "PERK" and approximately 75 to 90 cubic yards of contaminated soil were removed from the site. A RI was completed between August 1997 and July 1999. The RI indicated that floor drains in the southwestern area of the building and the former solvent tank area were potential sources of contamination. A limited remedial action was performed at the site in 2000, which included excavation of soil beneath the building floor slab and within trench and drain areas located in the southwestern corner of the building interior, as well as the installation of a sub-slab piping for a depressurization system.

Subsequent soil and groundwater samples collected beneath the building slab showed concentrations of PCE above applicable standards, criteria and guidance values. To date, remedial actions and previous environmental investigations at the Crown Dykman Site have focused on the presumed contaminant source area at the southwestern corner of the building.

3.2.5 Crown Dykman - Remedial Activities Remaining

A Proposed Project Management Work Plan (PMWP) for Phase I of the Crown Dykman RI/FS was approved by the NYSDEC on March 14, 2007. According to the NYSDEC Project Manager for the site, the scope of work specified in the PMWP is ongoing. The scope of work includes an onsite and offsite groundwater monitoring program, a soil sampling program, a vapor intrusion study, a site survey and the development of the final remedial investigation and feasibility program. Due to the proximity of the Crown Dykman Site to the former Li Tungsten Superfund Site, a radiological survey is also planned to assess the presence of low level radioactive material in the top foot of soil.

The groundwater monitoring program will include developing a monitoring well network that will potentially consist of the six onsite monitoring wells identified in Section 3.2.2, as well as two monitoring wells located on Li Tungsten Parcel A (MP-20 and GM-1) and two monitoring wells located on Li Tungsten Parcel B (GM-7 and GM-9). The PMWP also proposed installing three additional on-site monitoring wells and one monitoring well at the entrance to Li Tungsten Parcel A, located on Herb Hill Road opposite of the Crown Dykman Site.

Upon completion of the RI/FS, the NYSDEC will develop a PRAP and hold a public hearing to communicate project plans and gather public comments. Subsequently, the NYSDEC will issue a ROD describing the final remedy for the Crown Dykman Site. Recent groundwater quality data collected as part of the Crown Dykman groundwater sampling program is contained in **Appendix A**. Chlorinated compounds such as PCE, TCE, DCE, vinyl chloride were reported in excess of NYSDEC GWQS in three monitoring wells west and southwest of the site. Based upon the detection in the well to the west of the site, there may be other onsite sources of groundwater contamination in the northwest portion of Crown Dykman.

3.2.6 Crown Dykman - Remaining Areas of Concern

The primary area of concern relative to the GI Subject Properties is the migration of groundwater contaminants, including PCE and related breakdown products, from the Crown Dykman Site to the Li Tungsten Site (specifically Parcels A and B). Although localized groundwater flow direction will be better defined during the ongoing RI activities, the groundwater is generally flowing to the south from Crown Dykman, toward Parcel A of the Li Tungsten Site. The potential exists for VOC vapor intrusion into buildings constructed on Parcels A and B.

3.3 Konica Minolta

3.3.1 Konica Minolta - Site History/Location

The Konica Minolta Site, also known as the former Columbia Ribbon and Carbon Manufacturing Company disposal site/Powers Chemco Site, is located at 71 Charles Street in Glen Cove, New York. The site is utilized by the current owner, Konica

Imaging U.S.A., Inc. The site is bordered to the west by Li Tungsten Parcel B and is approximately 650 feet north of Li Tungsten Parcel A. In addition, the site is bordered to the south by the Gateway Properties, and to the north and east by residential properties. For an undetermined period prior to 1979, Columbia Ribbon and Carbon Company (Columbia) utilized the site for the disposal of wastes generated from the production of blue printing inks, carbon paper and typing ribbon. 55-gallon drums containing waste were apparently dumped into open pits at the site. Additionally, waste was pumped directly from the Columbia plant to the pits through a two-inch galvanized pipe. Waste pits at the site are visible in an aerial photograph taken between 1950 and 1960.

Powers Chemco, Inc. (Chemco) purchased land that included the Columbia waste disposal area in 1979. In 1983, Chemco discovered the subsurface contamination at the Site while excavating in the area. This discovery resulted in investigation and remedial efforts. Powers Chemco, Inc. was renamed Chemco Technologies, Inc. in the late 1980's. The company was subsequently sold and renamed Konica Imaging U.S.A., Inc. (Konica).

3.3.2 Konica Minolta - Current Physical Site Conditions

The Konica Minolta Site is currently being used as an industrial facility and contains a soil and groundwater treatment system.

3.3.3 Konica Minolta - Summary of Regulatory Involvement

Upon discovery of the waste disposal pits, Chemco hired Fred C. Hart Associates (FCHA) to perform a site investigation, which took place during the period between November 30, 1983 and February 3, 1984. Based on the conclusions of the FCHA investigation, Chemco presented the NYSDEC with an interim remedial plan and entered into a voluntary Order on Consent on June 8, 1984. Representatives from the NYSDEC and NCDOH provided oversight of the initial remedial activities. In 1985, the site was listed in the New York State Registry of Inactive Hazardous Waste Disposal Sites (New York State Superfund Sites) with a classification of "2", denoting a significant threat to public health or the environment. Chemco entered into a second Order on Consent with the NYSDEC on January 16, 1986 to better define environmental impact at the Konica Site. Based on the results, Chemco developed an RI/FS work plan to examine alternatives for remediation of the site. The agreement between Chemco and NYSDEC to perform the RI/FS was incorporated into a third Order on Consent signed on April 4, 1988. The RI/FS results were subsequently used to develop a ROD in March of 1991. A fourth Order on Consent pertained to the site remedy selected by the ROD.

3.3.4 Konica Minolta - Remedial Activities Previously Conducted

Based upon the first Order on Consent between Chemco and the NYSDEC, interim remedial actions began on June 19, 1984 at the Konica Site. Between the start date and August of 1984, fifteen overlapping trenches were excavated. A total of 4,645 tons of contaminated soil (primarily toluene, xylenes and ethylbenzene) and debris, along with 267 mostly empty drums were removed and disposed of at an approved offsite facility. The average depth of these excavations was 5 feet, which did not extend to the groundwater table.

An RI/FS was performed during the summer of 1988 based upon the remedial action described above and a subsequent supplemental investigation. The primary contaminants detected in soil and groundwater samples included toluene, ethylbenzene, and xylenes. The RI/FS determined that groundwater contamination was isolated to a perched groundwater unit in the disposal area, with vertical and horizontal contaminant migration confined by layers of clay and silt. Concentrations of contaminants within the disposal area were stable during separate groundwater sampling events and contaminant concentrations decreased sharply outside of the disposal area.

The selected remedy specified by the ROD for the Konica Minolta Site included the installation and operation of SVE and groundwater pump-and-treat systems to treat soil and groundwater. The system design was approved by NYSDEC on June 29, 1993 and the system constructed.

3.3.5 Konica Minolta - Remedial Activities Remaining

Remedial efforts, including soil and groundwater treatment, are currently in an operation, maintenance and monitoring phase. Documents show that system shutdown was requested in September of 2000; however recent detections of elevated VOCs in groundwater at the northern edge of the site have resulted in additional investigation efforts to further define the extent of groundwater contamination.

3.3.6 Konica Minolta - Remaining Areas of Concern

The primary area of concern relative to the GI Subject Properties is the migration of groundwater contaminants, including toluene, xylenes and ethylbenzene, from the Konica Minolta Site to the Li Tungsten Site. Although historical documents, including the ROD, state that bulk of contamination is confined to a perched groundwater unit in the disposal area, the groundwater flow is generally to the south, toward the Li Tungsten Site and Gateway Properties. The possibility of VOC vapor intrusion into buildings constructed on the Li Tungsten Site cannot be ruled out at this time.

3.4 Slantfin

The Slantfin Site is located at 40 Garvies Point Road in Glen Cove, New York. The property was formerly operated by Fabricare and was later bought by Slantfin, which manufactures boilers, baseboard and radiant heating products. According to an EDR database search, which identified the site as "Fabric Leather Corp," the site was registered as a RCRA-Small Quantity Generator (SQG) and has had numerous related violations. Several tanks that were used for the storage of plasticizers, solvents and #2 fuel oil have been documented on the site. A spill file was opened in April of 1988 as the result of a tank test failure of a #2 fuel oil tank. The tank later passed and the spill file was closed.

Although documentation as to the existence of a plume is not available or not documented, groundwater flow in the area would be to the south towards the Captain's Cove site. If a plume is identified, vapor intrusion investigation and, if necessary, mitigation would be a course for the proposed development at Captain's Cove.

4.0 Environmental Summary - GI Waterfront Revitalization Project

The GI Subject Properties consist of multiple properties that have historically fallen under various environmental cleanup programs, e.g. federal and state Superfund sites and the municipal Brownfield program. These are complicated sites with environmental histories that span more than several decades. Remediation efforts on the majority of the properties have been completed to satisfy the administrative records, and some of the smaller parcels are in the preliminary stages of investigation and cleanup. Previous environmental investigations/remediation have identified residual environmental impacts, which have been summarized throughout this Report and are further summarized in the following sections as well as on Table 2. Table 3 summarizes the known data gaps.

Table 2
Areas of Potential or Known Remaining Impact

Site	Contaminant	Media	Details
Li Tungsten Parcel A	Semi-volatile organic compounds (SVOCs)	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential
	Arsenic/Lead	Saturated Soil (below ground water)	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but generally beneath the groundwater table
	Radiological	Saturated soil/sediment (below MLW)	Residual levels in excess of cleanup standards at depths greater than 11' in areas adjacent to bulkhead (in creek)
	Volatile organic compounds (VOCs)	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Li Tungsten Parcel B	Polychlorinatedbiphenyls (PCBs)	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential for soil. Clean fill cover must be maintained
	Arsenic/Lead	Soil	Residual levels in excess of cleanup standards at one endpoint sample location and screening data indicated some metals hot spots (enclaves of soil containing chemical(s) at a concentration that exceeds the maximum regulatory levels for the anticipated site use)
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source
Li Tungsten Upper Parcel C	Arsenic/Lead	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential at one endpoint sample location, in soil west of Dickson Warehouse and screening data indicated some metals hot spots.

Site	Contaminant	Media	Details
	Radiological	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in the Benbow Building
Li Tungsten Lower Parcel C	SVOCs	Soil	Visual petroleum impact beneath former AST slab
	Arsenic/Lead	Saturated Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in soil generally beneath the groundwater table
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Captain's Cove	SVOCs/Metals	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in the in soil that were used as backfill from on-site soils and data for off-site sources of backfill used as part of the EPA remediation are not available
	Arsenic/Lead	Groundwater	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential in soil generally beneath the groundwater table
	Various	Sediment	Tidal flats, tidal wetlands, sediments directly behind the bulkhead, the Retention Ponds sediment were characterized as part of the RI; however conditions should be verified now that remediation has been completed
	Landfill Waste	Debris/Other	Areas not excavated may contain landfill wastes
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Angler's	SVOCs/metals	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential for soil.
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Gladsky	SVOCs/metals/PCBs/asbestos	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Pumping Station	SVOCs/metals	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but

Site	Contaminant	Media	Details
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Doxey	SVOCs/metals/pesticides	Soil	Residual levels in excess of cleanup standards or NYS SCOs for restricted residential but
	VOCs	Groundwater	Residual groundwater concentrations in excess of Maximum Contaminant Levels (MCLs) from upgradient source.
Gateway Properties	Unknown	Various	Phase I ESA identified suspected sources of contamination at these properties.

Based upon the remaining areas of impact and the proposed development plan, data gaps suggesting the need for further investigation and remaining contamination that may warrant remediation were identified. The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation. Table 3 summarizes the data gaps and remaining areas of remediation for the GI subject properties.

**Table 3
Data Gaps - Required Remediation**

Site	Data Gap/Required Remediation	Recommendation	Performed By
Glen Cove Creek	Quality of creek sediments	Perform radiological survey and sampling of creek sediments.	Developer/City
Li Tungsten Parcel A	Soil quality beneath dredge spoil stockpiles	Perform soil sampling to determine soil quality after removal of stockpile	Developer/City
	Opened NYSDEC Spill File 01-00419	Investigate and address to gain closure of Spill File	Developer/City
Li Tungsten Parcel B	Potential for isolated metals "hot spots" in soils not removed as part of EPA remedial effort	Perform soil sampling to determine soil quality	Developer/City
Li Tungsten Upper Parcel C	Potential for isolated metals "hot spots" in soils not removed as part of EPA remedial effort	Perform soil sampling to determine soil quality	Developer/City
	Potential for radiological/metals impacts in and beneath the Benbow Building	Perform soil sampling and radiological survey of building	Developer/City
Li Tungsten - All Parcels	Quality of soil used as backfill	Perform soil sampling to determine soil quality	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Captain's Cove	Wetlands, tidal flats, basins	Perform sediment sampling to verify not impacted by remedial efforts	Developer/City
	Quality of backfill material not known	Perform sampling in proposed areas of development	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater	Developer/City

Site	Data Gap/Required Remediation	Recommendation	Performed By
Glen Cove Creek	Quality of creek sediments	Perform radiological survey and sampling of creek sediments.	Developer/City
		sampling	
Angler's Club	Potential for asbestos and lead based paints based on age of building	Perform survey to identify materials/handle demolition in accordance with regulations	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Gladsky	NYSDEC has approved a Preliminary Remedial Action Plan	Implement PRAP	City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Pumping Station	Potential for asbestos and lead based paints based on age of building	Perform survey to identify materials/handle demolition in accordance with regulations	Developer/City
	Potential for sanitary wastes beneath system piping	SMP addresses how this material may be handled	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Doxey	Potential for asbestos and lead based paints based on age of building	Perform survey to identify materials/handle demolition in accordance with regulations	Developer/City
	Opened NYSDEC Spill File 92-09888	Investigate and address to gain closure of Spill File	Developer/City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City
Gateway Properties	Potential for impacts from property usage	Perform a Phase II ESA	City
	Potential for soil vapor	Perform soil gas and groundwater sampling	Developer/City

4.1 Li Tungsten (Parcels A, B, and C)

The Li Tungsten property has been investigated and remediated under EPA oversight. To date, EPA claims to have completed remediation. However, as explained in Section 2.1, remaining areas of known impact exist and include:

- Areas containing elevated concentrations of arsenic and lead, which are contained in the vicinity of existing utilities, on the east and west portions of Lower Parcel C and west of the Dickson Warehouse;
- Areas containing elevated concentrations of arsenic, lead, and SVOCs on Parcel A;
- An area on Parcel B where PCB concentrations exceed the surface soils SWCL of 1 mg/Kg. Therefore a clean fill cover needs to be maintained;
- Areas elevated concentrations of lead and arsenic on Upper Parcel C and Parcel B, along with potential isolated "hot spots" not removed during the EPA remedial effort;
- The potential for VOC impacted groundwater resulting from upgradient/adjacent properties, which are documented contamination sources;
- The potential for soil vapor issues resulting from VOC plumes emanating from upgradient/adjacent properties. The potential for radon vapor also exists; and

- The potential for residual radiological contamination exists in the Creek at depths greater than eleven feet below mean low water and adjacent to the bulkhead.

As explained, remaining areas of known impact exist on the Li Tungsten Site. It is believed that sufficient soil and groundwater quality data exists to generally characterize Parcel A and Lower Parcel C. However the potential for isolated “hot spots” of arsenic and lead exist on Upper Parcel C and Parcel B. Confirmatory soil sampling will be performed to identify residual isolated soils impacted with arsenic and lead for the purposes of determining disposal requirements. In addition, documentation does not exist regarding radiological surveys or chemical testing of the Benbow Building. If this information is not available, testing will be required prior to demolition. The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

Proposed actions to address remaining impacts are discussed in Section 5.0.

4.2 Captains Cove - NYSDEC & EPA OUII

Remedial activities as mandated by the NYSDEC and EPA RODs have been completed. Some of the on-site soils used as backfill contained concentrations in excess of the NYSDEC RSCOs for metals and SVOCs. This material was approved by the NYSDEC prior to backfilling. Endpoint results from areas excavated by the EPA contained levels of arsenic and/or lead in soil at or below the water table with concentrations above the Li Tungsten SWCLs and are also in excess of the NYSDEC RSCOs and the more current Part 375 soil cleanup objectives for restricted residential use. Data for material used as backfill after the EPA excavation was not contained in the RAR-OUII report and if not available, sampling will need to be performed.

Sampling of the tidal flats, tidal wetlands, sediments directly behind the bulkhead, the Retention Ponds sediment were characterized as part of the RI; however conditions should be verified now that remediation has been completed.

Groundwater quality being monitored as part of Captain's Cove OM&M activities appears to be improving on the western portion of the Site. However, the eastern portion of the Site is impacted by VOCs from off-site upgradient sources.

Currently, the NYSDEC ROD prohibits residential use of the Captain's Cove property. However, the NYSDEC has informally stated that it will consider residential use providing appropriate engineering and institutional controls are implemented through an environmental easement and SMP. Primarily this pertains to mitigating the potential for vapor intrusion and a soil/site management plan. The EPA as part of the May 2005 ESD evaluated the site for residential use, and found their cleanup to meet residential standards for arsenic, lead and radionuclides. The RODs/ESDs also prohibits the use of groundwater at the site. The areas of impact and data gaps will

be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

4.3 Angler's Club Site

SVOC and metals are present in excess of NYSDEC RSCOs in surface soil and sediment applicable at the time these investigations were performed. These levels remain in excess of the more current Part 375 cleanup objectives. No remediation was proposed due to the concentrations and anticipated non-residential use. However, the proposed use has now changed and will likely include a public park and esplanade. There has not been an evaluation for radiological contamination at the Site and due to the Site's proximity to Li Tungsten and Captain's Cove a radiological survey is warranted.

The migration of groundwater contamination beneath the Angler's Club Site from offsite sources may present a vapor intrusion issue and should be evaluated if buildings are proposed. Recommended additional investigation activities will be performed by the City/Developer.

The areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

4.4 Gladsky

Areas of impacted soils and groundwater exist on the Gladsky site. These include areas containing elevated concentrations of SVOCs, PCBs and metals in the soils and VOCs in the groundwater from upgradient sources.

NYSDEC issued a Preliminary Remedial Action Plan (PRAP) in January 2006 and a ROD in March 2006 for the Gladsky property. The selected remedy includes:

- A radiological contamination survey due to the site's proximity to Li Tungsten and Captain's Cove;
- The excavation and offsite disposal of contaminated soil above NYSDEC RSCOs (minimum of 2 feet across site);
- A site management plan to address residual contaminated soils that may be excavated as part of future redevelopment and the evaluation of vapor intrusion for any proposed buildings;
- Institutional controls in the form of an environmental easement which restricts the use of groundwater and ensures compliance with the site management plan; and
- Periodic certification of the institutional controls by a Professional Engineer.

Remedial activities have not yet begun. However, the City has been approved to perform the remedial activities under the NYSDEC ERP Program.

4.5 Pumping Station

Areas of impacted soils and groundwater exist on the Pumping Station site. These include areas containing elevated concentrations of SVOCs and metals in the soils and VOCs in the groundwater from upgradient sources. In addition, impacts from sanitary wastes may exist beneath piping systems. Building structures are not proposed for this site, should development be proposed for this parcel evaluation for the potential of soil vapor intrusion is warranted.

There has not been an evaluation for radiological contamination at the Site and due to the Site's proximity to Li Tungsten and Captain's Cove is warranted. In addition, the areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

4.6 Doxey Site

Areas of impacted soils and groundwater exist on the Doxey site. These include areas containing elevated concentrations of SVOCs, pesticides and metals in the soils and VOCs in the groundwater. Additional delineation of contaminated soil is warranted so that the extent of remediation can be determined.

There has not been an evaluation for radiological contamination at the Site and due to the Site's proximity to Li Tungsten and Captain's Cove is also warranted.

The migration of groundwater contamination beneath the Doxey Site from onsite or offsite sources may present a vapor intrusion issue and should be evaluated. In addition, the areas of impact and data gaps will be re-evaluated once project-wide criteria are established and an agreement among regulatory agencies will determine the need for additional investigation and/or remediation and the regulatory program under which the actions will be performed. In addition, the SMP will detail the requirements for soil management and will indicate the required engineering controls.

4.7 Gateway Properties

The Gateway Properties consist of seven separate tax lots, including Windsor Fuel, Nassau Ready-mix, Brilliant Air, and an office building. These properties are not yet under the possession of the City of Glen Cove, but are planned to be acquired by the Developers, and are included in the GI Subject Properties and the proposed development. The Phase I ESA performed in January 2009, identified several recognized environmental conditions and recommended additional investigation to determine soil and groundwater quality beneath the site. These properties have the potential to contain petroleum impacts from the Windsor Fuel facility, SVOC and PCB impacts from former use as an electrical substation, and impacts from adjacent/upgradient superfund, state hazardous waste sites, and spills sites.

Recommended Phase II activities will be performed by the Developer prior to acquiring the properties and prior to development.

4.8 Surrounding Properties

The properties surrounding the Subject Site consist of several Federal and State Superfund sites. These sites are known sources of VOC groundwater plumes, which are likely impacting the GI Subject Properties. These plumes present the potential for soil vapor issues to each of the GI Subject Properties. Soil vapor will be evaluated prior to development to determine appropriate engineering controls.

5.0 Conclusions and Proposed Actions for the GI Subject Properties

Investigation and remedial activities have identified that residual soil and groundwater impacts exist on the GI Subject Properties. In many instances, concentrations exceed the cleanup objectives for Unrestricted Use and Restricted Residential land use as specified by 6 NYCRR Subpart 375-6.8(a) and (b) of the NYSDEC soil cleanup objective (SCO). The attached figures and tables presenting soil quality data highlight the numerous exceedances of the SCOs at each of the GI Subject Properties.

The NYSDEC and the EPA indicated that an Environmental Easement (EE) may be granted to allow for restricted residential development on all portions of the GI Subject Properties. The EE will require that a series of engineering and institutional controls be established in order to eliminate exposure pathways to protect residents, the public and the environment.

The NYSDEC and the EPA have also indicated that a Site Management Plan (SMP) will be required. The SMP will describe the engineering controls that will be installed during construction, management of soil (handling and disposal) during planned construction earthwork activities and operation, monitoring, and maintenance procedures of the engineering controls and monitoring systems after construction is completed.

6.0 References

Li Tungsten

Draft Final Remedial Investigation Report – Li Tungsten, May 1998

EPA Superfund Record of Decision Li Tungsten Corp., EPA ID: NYD986882660, OU 01, OU2, Glen Cove, NY, September 1999

Interim Remedial Action Report OUI Parcel A +Lower Parcel C Excavation and offsite Disposal of Contaminated Soil, September 2001 (Interim RAR-OUI)

Glen Isle Field Verification Program Certification Sampling Event #1 prepared October-November 2003 (GI-FVP)

Final Interim Remedial Action Report – Post-Remedial Actions at Dickson Warehouse and Upper Parcel C, November 2004 (Upper C and Dickson IRAR)

EPA Superfund Record of Decision Li Tungsten Corp., EPA ID: NYD986882660, OU 04, Glen Cove, NY, March 30, 2005

EPA Explanation of Significant Differences, Li Tungsten Superfund Site, Glen Cove New York, May 2005

Final Remedial Action Report – Li Tungsten Superfund Site OUIV – Glen Cove Creek, October 2007

Final Remedial Action Report for OUI, September 2008 (2008 Final RAR)

Draft Final Status Survey Report – Post Remedial Actions at Parcel B and Parcel C, September 2008 (FSSR)

Final Technical Memorandum Gamma Verification Survey for Acceptance Area 3, September 2008

Groundwater Monitoring Status Report – September 2008 Quarterly Sampling – Li Tungsten Superfund Site, December 2008

Captain's Cove

Final Remedial Investigation Report, Captain's Cove Condominium Inactive Hazardous Waste Disposal Site, January 1999 (CC-RI)

Final Feasibility Study Report, Captain's Cove Condominium Inactive Hazardous Waste Disposal Site, January 1999 (CC-FS)

NYSDEC Record of Decision Captain's Cove Condominiums Site, City of Glen Cove, Nassau County Site Number 130032, March 1999

EPA Superfund Record of Decision Li Tungsten Corp., EPA ID: NYD986882660, OU 01, OU2, Glen Cove, NY, September 1999

Remedial Action Completion Report, Captain's Cove Condominium Inactive Hazardous Waste Disposal Site, March 18, 2004 (RACR)

Remedial Action Report for Operable Unit 2 (Captain's Cove Property) Excavation and Offsite Disposal of Contaminated Soil, September 2006

Glen Isle Field Verification Program Certification Sampling Event #1 prepared October-November 2003 (GI-FVP);

Angler's/Gladsky/Pumping Station

Phase I Environmental Site Assessment (ESA) Anglers Club/Gladsky Marine Site, May 2000

Phase II Environmental Site Assessment (ESA) Anglers Club/Gladsky Marine Site, May 2000

Supplemental Phase II Environmental Site Assessment (ESA) Anglers Club/Gladsky Marine Site, December 2000

Angler's Club Site – Brownfields Pilot Site Profile, April 2001

Gladsky Marine Site – Brownfields Pilot Site Profile, April 2001

Gladsky Marine – NYSDEC Proposed Remedial Action Plan, January 2006

Gladsky Site – NYSDEC Environmental Restoration Record of Decision, March 2006

Phase II Environmental Site Assessment (ESA) City of Glen Cove Pump Station, January 2005

Doxey

Phase I Environmental Site Assessment (ESA) Doxey's Property, September 1999

Doxey/Hawkins Oil Site – Brownfields Pilot Site Profile, April 2001

Preliminary Phase II Environmental Site Assessment (ESA) Analytical Results - Doxey's Site, May 2003

Phase II Environmental Site Assessment (ESA) Doxey's Property, November 2006

Gateway Properties

Phase I Environmental Site Assessment (ESA) Gateway Properties, January 2009

Mattiace

Final Restoration Plan – Mattiace Petrochemical Company, April 2007

Effectiveness/Environmental Monitoring Data Report October/November Sampling Event for OU 3 and 4 – Former Mattiace Petrochemical Site, May 2008

Monthly Progress Report for the Former Mattiace Petrochemical Site, August 2008

Monthly Progress Report for the Former Mattiace Petrochemical Site, September 2008

Monthly Progress Report for the Former Mattiace Petrochemical Site, October 2008

USEPA Record Of Decision – Mattiace Petrochemical Co., Inc, September 1990

Konica Minolta

NYSDEC Record of Decision – Columbia Ribbon and Carbon Manufacturing Company aka. The Powers Chemco Site, March 1991

Crown Dykman

Interim Remedial Measure and Groundwater Investigation – Crown Dykman Facts Sheet, October 2004

FIGURES



AERIAL MAP

NOT TO SCALE

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RXR
 GLEN ISLE
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REVISION	DATE	INITIALS	COMMENTS

DRAWING INFORMATION	
PROJECT: RRFG001	APPROVED BY: LS
DESIGNED BY: ZY	DATE: 12/11/08
DRAWN BY: LLG	SCALE: AS SHOWN

SHEET TITLE

**SUBJECT PROPERTY
 LOCATION MAP**

**GLEN ISLE WATERFRONT
 REVITALIZATION PROJECT
 GLEN COVE, NY**

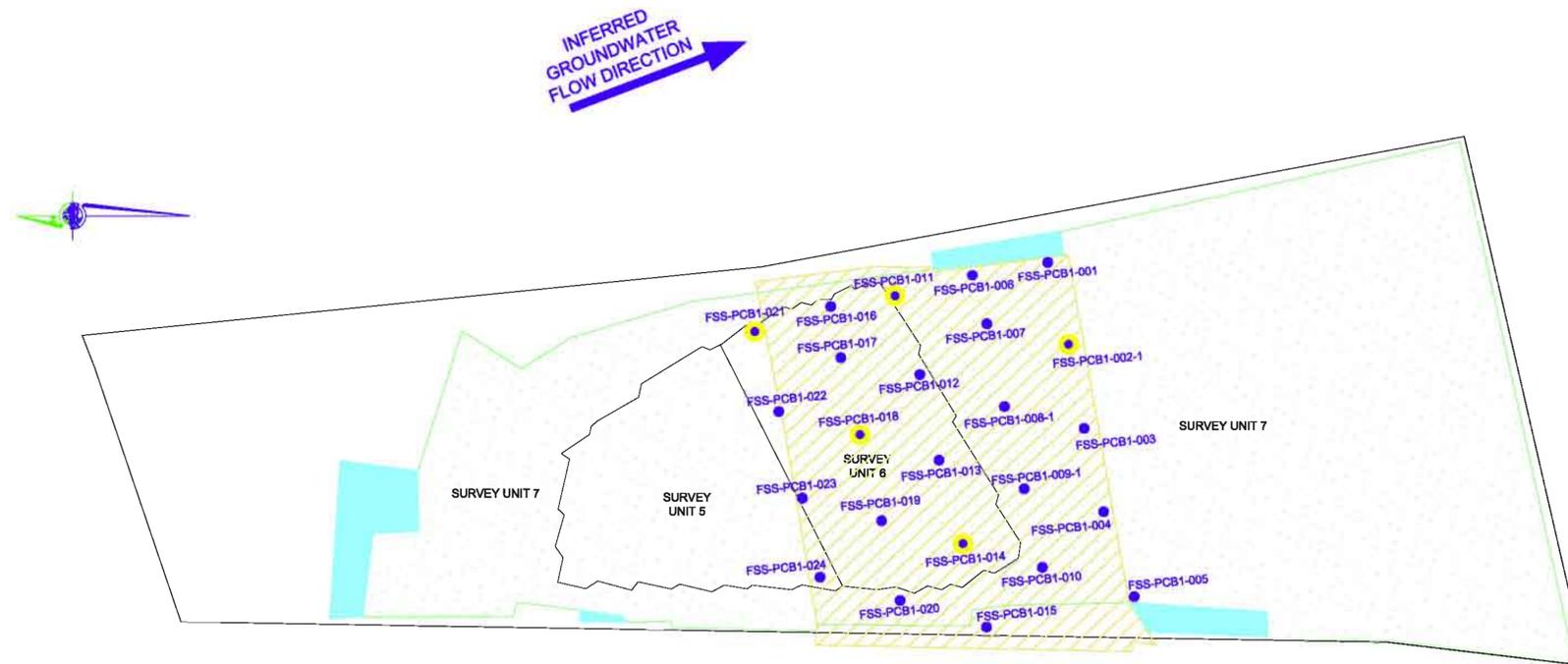
FIGURE NO 1

SHEET 1 of 16

J:\Projects\M-RRFG\0801 - Glen Cove Waterfront\0801 ENVY Section\Fig 1.dwg

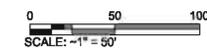
PCB Sample Results	
Sample ID	PCBs (mg/Kg)
FSS-PCB1-001	0.93
FSS-PCB1-0020-1	1.528
FSS-PCB1-003	1.416
FSS-PCB1-004	0.184
FSS-PCB1-005	0.711
FSS-PCB1-006	0.792
FSS-PCB1-007-1	0.693
FSS-PCB1-008-1	0.774
FSS-PCB1-009-1	0.876
FSS-PCB1-010	0.72
FSS-PCB1-011	3.18
FSS-PCB1-012	0.765
FSS-PCB1-013	0.693
FSS-PCB1-014	3.22
FSS-PCB1-015	0.684
FSS-PCB1-016	0.996
FSS-PCB1-017	0.684
FSS-PCB1-018	1.668
FSS-PCB1-019	0.754
FSS-PCB1-020	0.702
FSS-PCB1-021	1.824
FSS-PCB1-022	0.742
FSS-PCB1-023	0.858
FSS-PCB1-024	0.648

Notes:
 Exceeds 1 mg/Kg
 Results obtained from "Draft Final Survey Report" September 2008



LI TUNGSTEN PARCEL B
 SCALE: -1" = 50'

- DRAFT FINAL STATUS SURVEY RESULTS**
- SITE BOUNDARY
 - AREAS IDENTIFIED IN THE FINAL REMEDIAL DESIGN THAT DID NOT WARRANT REMEDIATION
 - METALS AREA, EXCAVATION CUT LINES
 - LAND AREA EXCAVATED AND SAMPLED FOR PCBs
 - PCB ENDPOINT SAMPLE APPROXIMATE LOCATION
 - PCB ENDPOINT SAMPLE EXCEEDING 1 mg/Kg



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DATE	INITIAL	COMMENTS

DRAWING INFORMATION

PROJECT:	RG0801	APPROVED BY:	LB
DESIGNED BY:	BB	DATE:	1/21/09
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

LI TUNGSTEN PARCEL
 "B"
 PCB AREA ENDPOINT
 SAMPLE LOCATIONS
 GLEN ISLE WATERFRONT
 REVITALIZATION PROJECT
 GLEN COVE, NY

FIGURE NO
 2B.1

SHEET
 4 OF 16

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Radiological Survey Results				
Sample ID	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)
5601-FSS-SU5-1001	0.87	0.42	0.82	0.98
5601-FSS-SU5-1002	0.99	0.31	0.84	1.02
5601-FSS-SU5-1003	0.81	0.40	0.61	0.80
5601-FSS-SU5-1004	0.73	0.52	0.79	0.92
5601-FSS-SU5-1005	1.30	0.65	1.01	1.17
5601-FSS-SU5-1006	0.11	-0.33	0.87	0.74
5601-FSS-SU5-1007	0.78	1.00	0.61	0.72
5601-FSS-SU5-1008	0.49	0.08	0.85	0.91
5601-FSS-SU5-1009	0.04	-0.10	0.89	0.81
5601-FSS-SU5-1010	1.04	0.73	0.63	0.75
5601-FSS-SU5-1011	0.74	0.81	0.40	0.48
5601-FSS-SU5-1012	1.40	0.92	0.60	0.63
5601-FSS-SU6-1001	0.94	0.76	0.50	1.04
5601-FSS-SU6-1002	0.47	0.60	0.53	0.81
5601-FSS-SU6-1003	0.54	0.69	0.46	0.56
5601-FSS-SU6-1004	0.80	1.21	0.85	1.09
5601-FSS-SU6-1005	1.23	1.25	0.99	1.05
5601-FSS-SU6-1006	0.59	0.86	0.80	0.97
5601-FSS-SU6-1007	0.75	0.83	0.77	1.02
5601-FSS-SU6-1008	0.19	0.50	0.58	0.65
5601-FSS-SU6-1009	0.95	1.00	0.63	0.72
5601-FSS-SU6-1010	0.63	0.82	0.63	0.94
5601-FSS-SU6-1011	0.63	0.65	0.49	0.78
5601-FSS-SU6-1012	0.76	0.88	0.67	0.68
5601-FSS-SU7-1001	0.90	0.99	0.86	0.89
5601-FSS-SU7-1002	1.08	0.99	0.70	0.76
5601-FSS-SU7-1003	1.21	0.76	0.92	1.08
5601-FSS-SU7-1004	1.12	1.00	0.89	1.00
5601-FSS-SU7-1005	1.31	0.51	0.67	0.67
5601-FSS-SU7-1006	1.02	0.33	0.76	1.10
5601-FSS-SU7-1007	0.46	0.32	0.36	0.35
5601-FSS-SU7-1008	1.21	1.23	0.60	0.65
5601-FSS-SU7-1009	1.08	1.15	0.82	1.04
5601-FSS-SU7-1010	1.01	0.74	0.73	0.89
5601-FSS-SU7-1011	0.97	0.81	0.78	1.03
5601-FSS-SU7-1012	0.44	0.56	0.56	0.50
5601-FSS-SU7-1019	1.01	0.99	0.76	0.84
5601-FSS-SU7-1020	1.04	0.79	0.87	1.08

Results obtained from "Draft Final Status Survey Report" September 2008

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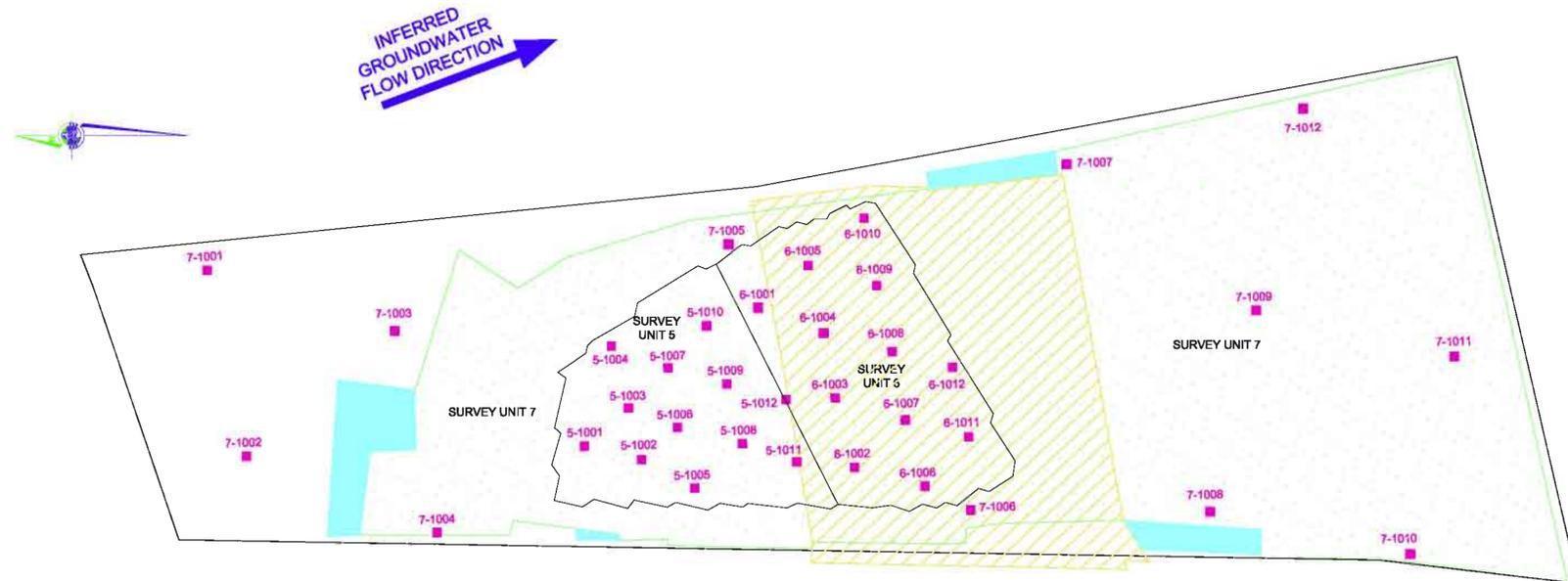
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DESIGNED BY:	BB	DATE:	1/21/09
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

LI TUNGSTEN PARCEL
"B"
RADIOLOGICAL SURVEY UNIT
FINAL SAMPLE LOCATIONS
GLEN ISLE WATERFRONT
REVITALIZATION PROJECT
GLEN COVE, NY

FIGURE NO
2B.3

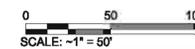
SHEET
6 OF **16**



LI TUNGSTEN PARCEL B
SCALE: -1" = 50'

DRAFT FINAL STATUS SURVEY RESULTS

- SITE BOUNDARY
- AREAS IDENTIFIED IN THE FINAL REMEDIAL DESIGN THAT DID NOT WARRANT REMEDIATION
- METALS AREA, EXCAVATION CUT LINES
- LAND AREA EXCAVATED AND SAMPLED FOR PCBs
- ENDPOINT SAMPLE APPROXIMATE LOCATION



Parcel C Metals Sample Results		
Sample ID	Pb (mg/Kg)	As (mg/Kg)
5601-FSS-PC-1001	72.3	2.3
5601-FSS-PC-1002	90	5.3
5601-FSS-PC-1003	22.6	1.6
5601-FSS-PC-1004	44.2	7.8
5601-FSS-PC-1005	94.6	11.7
5601-FSS-PC-1006	2.9	1.1
5601-FSS-PC-1007	15.3	7.5
5601-FSS-PC-1008	4.4	7.3
5601-FSS-PC-1009	13.5	6.4
5601-FSS-PC-1010	51.7	3.8
5601-FSS-PC-1011	21.4	8.5
5601-FSS-PC-1012-1	10.1	4
5601-FSS-PC-1013-1	5.4	1.1
5601-FSS-PC-1014	19.9	5.6
5601-FSS-PC-1015	16.2	2
5601-FSS-PC-1016	29.4	2.4
5601-FSS-PC-1017	23.5	3.6
5601-FSS-PC-1018	7	2.7
5601-FSS-PC-1019	14.4	1.2
5601-FSS-PC-1020	22	6.9
5601-FSS-PC-1021	9.9	10.3
5601-FSS-PC-1022	277	13.2
5601-FSS-PC-1023	92.5	7.3
5601-FSS-PC-1024	50.5	5.2
5601-FSS-PC-1025	4.3	1.2
5601-FSS-PC-1026	88.2	58.2
5601-FSS-PC-1027-1	42.1	7.2
5601-FSS-PC-1028	3.1	1.8
5601-FSS-PC-1029-1	93.8	9.5
5601-FSS-PC-1030	38	4.9
5601-FSS-PC-1031	41.6	7.2
5601-FSS-PC-1032	26.5	9.5

Parcel Lower C Exempt Area Remediation Metals Sample Results						
Exempted Gas Line Area						
Date	Sample ID	Sample Type	Location	Lead (ppm)	Arsenic (ppm)	
10/27/2003	LPC-GA-EW3	Wall	1	45.5	48	
10/27/2003	LPC-GA-EW4	Wall	2	17.7	14.3	
10/27/2003	LPC-GA-WW3	Wall	3	17.9	62.6	
10/27/2003	LPC-GA-WW4	Wall	4	9.24***	16.85***	
10/27/2003	LPC-GA-WW1	Wall	5	22.6	421.4	
10/27/2003	LPC-GA-F1	Floor	6	36.8	266.6	
10/27/2003	LPC-GA-F2	Floor	7	263.5	963.5	
10/27/2003	LPC-GA-F3	Floor	8	255.7	166.3	
10/27/2003	LPC-GA-F4	Floor	9	301.8	408.4	
10/28/2003	LPC-GA-EW5	Wall	10	55.7	1036	
10/28/2003	LPC-GA-EW6	Wall	11	64.3	237.2	
10/28/2003	LPC-GA-EW7	Wall	12	26.8	5.82***	
10/28/2003	LPC-GA-EW8	Wall	13	16.3***	13.1***	
10/28/2003	LPC-GA-EW9	Wall	14	20.1	11.77***	
10/28/2003	LPC-GA-EW10	Wall	15	15.8	6.33***	

Parcel Lower C Excavation Areas Confirmatory Composite Sampling Results					
Excavation Areas	Arsenic (mg/Kg)	Lead (mg/Kg)	Radium 226 (pCi/g)	Thorium 232 (pCi/g)	
13	340	320	NS	NS	
13a	170	350	1	1	
14	110	220	NS	NS	
14a	39	700	1	2.5	
15	82	400	1	1	
15a	20	40	NS	NS	
15b	58	150	NS	NS	
15c	12	32	NS	NS	
16	747	366	NS	NS	
17	1120	307	NS	NS	

Notes:
 Exceeds SWCLS
 Lead: 400 mg/Kg
 Arsenic: 24 mg/Kg
 Radium 226 SpCi/g > background
 Thorium 232 SpCi/g > background
 Background radiation levels are 1 pCi/g
 Exceeds NYSDEC Part 375 - Restricted Residential Cleanup Objective
 Lead: 400 mg/Kg
 Arsenic: 16 mg/Kg
 Results obtained from "Remedial Action Report For Operable Unit One (Li Tungsten Facility)" September 2008

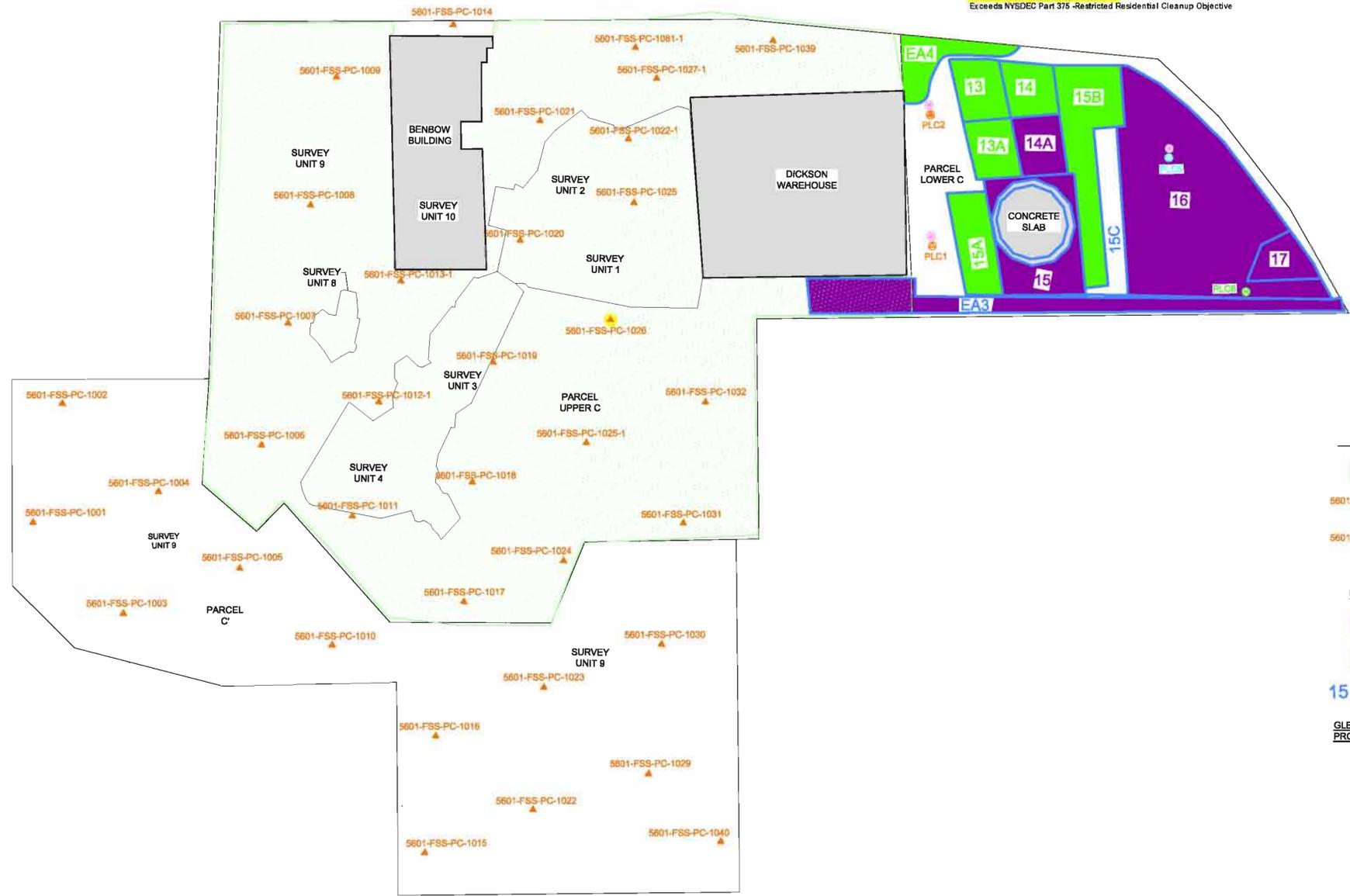
Parcel Lower C Metals and Semivolatile Organic Compounds Sampling Results											
Sample ID	PLC1	PLC2	PLC3A	PLC3B	PLC3C	PLC5	PLC6	TAGM Values	NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives	NYSDEC Part 375 Restricted Residential Use Soil Cleanup Objectives	
Depth (ft)	5-1	5-1	5-13	5-1	5-1	5-1	4-5				
Semi-volatile Organics (ug/Kg)											
Benzo (a) anthracene	390	718	NS	U	U	207	U	224	1000	1000	
Chrysene	538	877	NS	U	U	249	U	400	1000	3500	
Benzo (a) pyrene	420	355	NS	U	U	264	U	61	1000	1000	
Dibenzo (a,h) anthracene	U	U	NS	U	U	U	U	14	330	330	
Total SVOC's	1358	2450	NS	U	U	264	U	500,000			
Metals (mg/Kg)											
Arsenic	246	20.3	NS	2.76	6.91	155	260	7.5	13	16	
Cadmium	7.48	0.8	NS	0.56	1.88	2.66	15.8	10	2.5	4.3	
Chromium	52.9	12.2	NS	4.3	20.7	11.2	20.5	50	30	180	
Lead	373	53	NS	2.8	8.15	263	833	400	63	400	
Mercury	1.6	0.045	NS	0.013	0.025	1.55	0.76	0.1	0.18	0.81	

Depth (ft)	5-5.5	4-5	6-6.5	1-12	3-4	4-5	6-7				
Semi-volatile Organics (ug/Kg)											
Benzo (a) anthracene	U	U	U	NS	U	U	U	224	1000	1000	
Chrysene	U	U	U	NS	U	U	U	400	1000	3500	
Benzo (a) pyrene	U	U	U	NS	U	U	U	61	1000	1000	
Dibenzo (a,h) anthracene	U	U	U	NS	U	U	U	14	330	330	
Total SVOC's	U	U	6,914	NS	U	U	U	500,000			
Metals (mg/Kg)											
Arsenic	47.9	501	7.63	NS	10.1	203	195	7.5	13	16	
Cadmium	1.1	1.29	0.88	NS	2.42	1.71	1.09	10	2.5	4.3	
Chromium	2.29	12	6.38	NS	14.7	17.9	14	50	30	180	
Lead	7.34	7.63	43.4	NS	57.3	28.1	33.2	400	63	400	
Mercury	0.093	U	0.018	NS	0.018	1.85	0.055	0.1	0.18	0.81	

Depth (ft)	6-5.5	10-12	8-9	12-13	6-7	7-8	11-12				
Semi-volatile Organics (ug/Kg)											
Benzo (a) anthracene	U	U	U	U	U	436	U	224	1000	1000	
Chrysene	U	U	U	U	U	469	U	400	1000	3500	
Benzo (a) pyrene	U	U	U	U	U	500	U	61	1000	1000	
Dibenzo (a,h) anthracene	U	U	U	U	U	U	U	14	330	330	
Total SVOC's	U	U	54	202	U	1425	U	500,000			
Metals (mg/Kg)											
Arsenic	284	11.7	6.84	U	1.94	88.1	2.24	7.5	13	16	
Cadmium	3	0.51	1.23	1.15	0.85	0.84	0.41	10	2.5	4.3	
Chromium	10.9	6.15	24.5	15.2	15.1	7.26	11.9	50	30	180	
Lead	9.64	11.9	9.35	5.44	9.41	29.7	5.12	400	63	400	
Mercury	U	U	0.0092	0.0089	0.011	0.26	0.015	0.1	0.18	0.81	

Notes:
 U = Below Detection Limit
 NS = Not Sampled
 Results obtained from "Glen Isle Field Verification Program Certification Sampling Event # 1" October - November 2003
 Exceeds TAGM Cleanup Objective
 Exceeds NYSDEC Part 375 - Restricted Residential Cleanup Objective

Notes:
 Exceeds Site Specific Guidelines of 400 mg/Kg and 24 mg/Kg
 Exceeds NYSDEC Part 375 Restricted Residential Use Soil Cleanup Objective
 Results obtained from "Draft Final Status Survey Report" September 2008

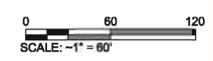


- DRAFT FINAL STATUS SURVEY RESULTS**
- SITE BOUNDARY
 - METALS AREA, EXCAVATION CUT LINES
 - 5601-FSS-PC-1015 METALS ENDPOINT SAMPLE APPROXIMATE LOCATION
 - 5601-FSS-PC-1026 METALS ENDPOINT SAMPLE EXCEEDING SWCL - ARSENIC
- USEPA REMEDIAL ACTIONS FOR OUI RESULTS**
- EXCEEDANCE OF CLEAN UP OBJECTIVE - ARSENIC & LEAD
 - EXCEEDANCE OF CLEAN UP OBJECTIVE - ARSENIC
 - APPROXIMATE EXCAVATION AREAS
- GLEN ISLE FIELD VERIFICATION PROGRAM RESULTS:**
- SURFACE SVOC
 - SUB-SURFACE SVOC
 - SURFACE & SUB-SURFACE METALS

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INFORMATION PROVIDED BY:
 ECC 1748 COLE BLVD.
 BUILDING 21, SUITE 350
 LAKEWOOD, CO 80401

LI TUNGSTEN PARCEL C, C' & LOWER C
 SCALE: -1" = 60'



PWGC
 Strategic Environmental & Engineering Solutions

630 JOHNSON AVE. SUITE 7
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CONSULTANTS

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RXR
 GLEN ISLE PARTNERS, LLC

REVISIONS	DATE	INITIALS	COMMENTS

LI TUNGSTEN PARCEL "C, C' & LOWER C" METALS AREA FINAL SAMPLE LOCATIONS

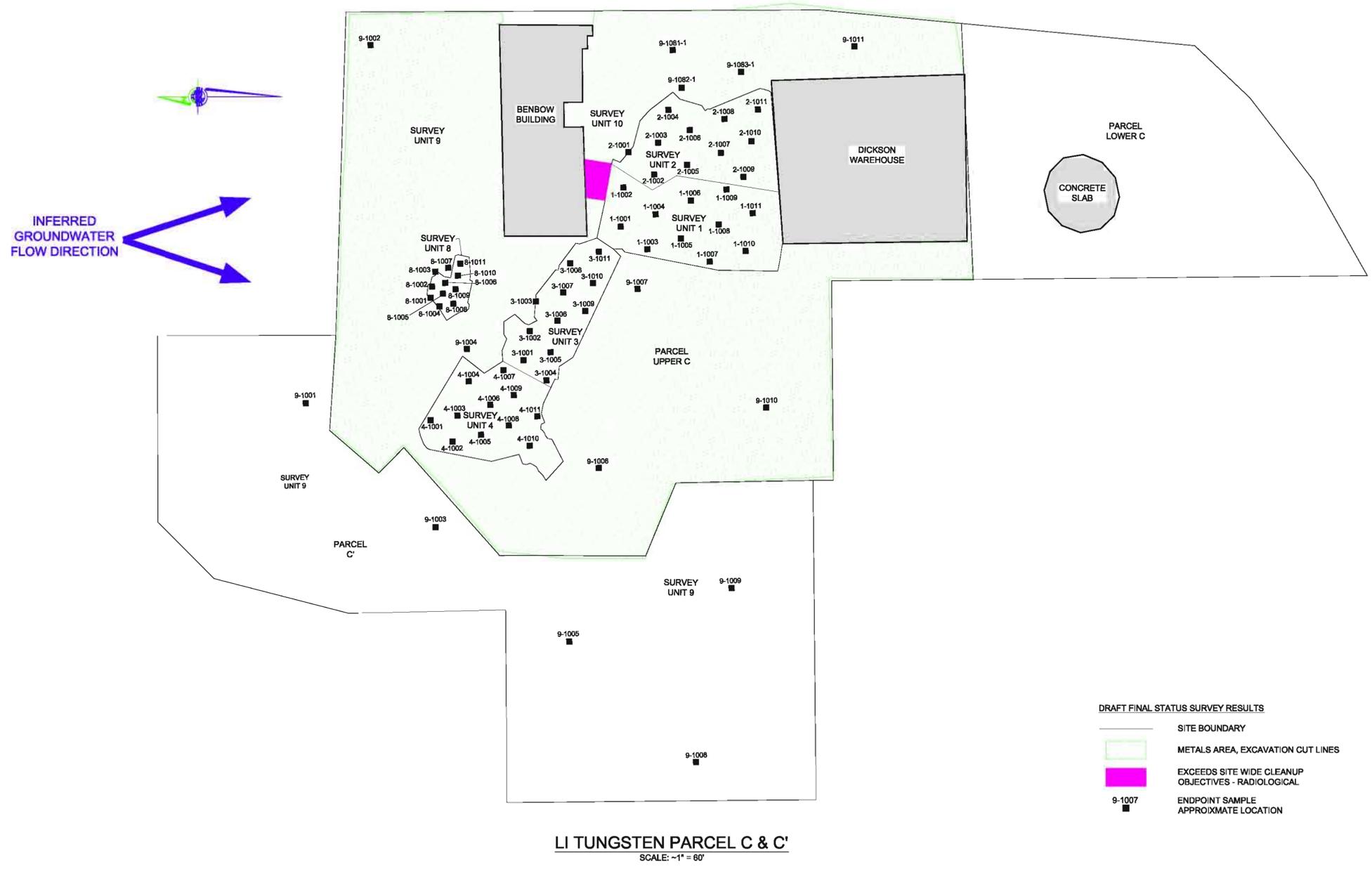
GLEN ISLE WATERFRONT REVITALIZATION PROJECT
 GLEN COVE, NY

Radiological Survey Results				
Sample ID	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)
5601-FSS-SU1-1001	0.47	0.89	0.58	0.64
5601-FSS-SU1-1002	0.69	0.20	0.75	0.85
5601-FSS-SU1-1003	0.55	0.87	0.50	0.56
5601-FSS-SU1-1004	0.65	0.69	0.60	0.62
5601-FSS-SU1-1005	0.49	0.47	0.62	0.82
5601-FSS-SU1-1006	0.70	0.87	0.65	0.78
5601-FSS-SU1-1007	0.35	0.49	0.48	0.62
5601-FSS-SU1-1008	0.69	0.68	0.69	0.87
5601-FSS-SU1-1009	0.41	0.28	0.45	0.51
5601-FSS-SU1-1010	0.60	0.73	0.58	0.75
5601-FSS-SU1-1011	0.85	0.90	0.90	0.87
5601-FSS-SU2-1001	0.97	1.18	0.82	0.80
5601-FSS-SU2-1002	1.36	1.08	0.90	0.92
5601-FSS-SU2-1003	1.48	1.55	0.57	0.83
5601-FSS-SU2-1004	1.62	1.38	0.78	0.95
5601-FSS-SU2-1005	1.02	0.88	0.64	0.93
5601-FSS-SU2-1006	1.00	0.94	0.57	0.78
5601-FSS-SU2-1007	0.75	1.03	0.52	0.70
5601-FSS-SU2-1008	1.16	1.26	0.78	1.10
5601-FSS-SU2-1009	1.10	1.18	0.74	0.95
5601-FSS-SU2-1010	0.53	0.53	0.50	0.63
5601-FSS-SU2-1011	1.44	1.20	0.89	1.10
5601-FSS-SU3-1001	0.56	0.78	0.49	0.48
5601-FSS-SU3-1002	0.74	0.82	0.34	0.59
5601-FSS-SU3-1003	0.49	0.53	0.47	0.63
5601-FSS-SU3-1004	0.54	0.70	0.38	0.46
5601-FSS-SU3-1005	0.87	0.83	0.51	0.72
5601-FSS-SU3-1006	0.78	0.76	0.47	0.82
5601-FSS-SU3-1007	0.67	0.57	0.52	0.51
5601-FSS-SU3-1008	0.82	0.72	0.66	0.69
5601-FSS-SU3-1009	1.01	0.68	0.53	0.74
5601-FSS-SU3-1010	0.73	0.86	0.52	0.61
5601-FSS-SU3-1011	1.12	0.95	0.86	0.84
5601-FSS-SU4-1001	1.04	0.89	0.66	0.77
5601-FSS-SU4-1002	0.40	0.05	0.25	0.28
5601-FSS-SU4-1003	0.22	0.19	0.13	0.13
5601-FSS-SU4-1004	1.33	0.97	1.01	1.10
5601-FSS-SU4-1005	0.93	0.71	0.64	0.86
5601-FSS-SU4-1006	1.40	0.83	0.93	0.89
5601-FSS-SU4-1007	0.33	-0.03	0.43	0.43
5601-FSS-SU4-1008	1.36	1.01	1.56	1.71
5601-FSS-SU4-1009	0.43	0.39	0.36	0.54
5601-FSS-SU4-1010	1.36	1.15	0.97	1.08
5601-FSS-SU4-1011	0.22	0.62	0.48	0.58
5601-FSS-SU4-1018	1.05	0.62	0.61	0.58
5601-FSS-SU4-1019	0.90	0.84	0.82	0.93
5601-FSS-SU8-1001	0.83	1.11	0.59	0.80
5601-FSS-SU8-1002	1.64	1.59	0.97	1.25
5601-FSS-SU8-1003	1.31	0.96	0.65	0.66
5601-FSS-SU8-1004	1.10	0.80	0.69	0.84
5601-FSS-SU8-1005	1.32	0.63	1.06	1.14
5601-FSS-SU8-1006	0.99	1.43	0.79	1.05
5601-FSS-SU8-1007	0.93	0.42	0.48	0.63
5601-FSS-SU8-1008	1.55	1.17	1.50	1.54
5601-FSS-SU8-1009	1.24	1.30	0.96	1.39
5601-FSS-SU8-1010	1.12	0.47	0.81	0.90
5601-FSS-SU8-1011	1.12	0.35	0.53	0.85
5601-FSS-SU9-1001	0.87	0.77	0.53	0.59
5601-FSS-SU9-1002	0.80	1.10	0.52	0.59
5601-FSS-SU9-1003	0.78	0.29	0.47	0.68
5601-FSS-SU9-1004	0.64	0.59	0.48	0.55
5601-FSS-SU9-1005	0.38	0.81	0.39	0.47
5601-FSS-SU9-1006	1.14	0.97	0.77	0.87
5601-FSS-SU9-1007	0.82	1.25	0.71	0.88
5601-FSS-SU9-1008	0.59	0.91	0.56	0.68
5601-FSS-SU9-1009	0.42	0.48	0.41	0.45
5601-FSS-SU9-1010	0.94	0.74	0.77	0.76
5601-FSS-SU9-1011	1.17	1.01	0.61	0.92
5601-FSS-SU10-1001	0.82	1.07	0.73	1.01
5601-FSS-SU10-1002	0.76	0.67	0.72	0.84
5601-FSS-SU10-1003	1.06	0.53	1.19	1.16
5601-FSS-SU10-1004	1.19	0.94	0.94	1.58
5601-FSS-SU10-1005	0.98	0.71	0.68	0.71
5601-FSS-SU10-1006	1.01	0.49	0.74	0.87
5601-FSS-SU10-1007	1.11	0.71	0.72	0.77
5601-FSS-SU10-1008	1.50	2.71	2.72	2.68
5601-FSS-SU10-1009	1.02	0.79	0.78	1.19
5601-FSS-SU10-1010	2.16	4.66	2.48	5.60
5601-FSS-SU10-1011	1.16	0.61	0.63	0.82
5601-FSS-SU10-1010-N	3.63	16.80	5.30	17.90
5601-FSS-SU10-1010-S	1.04	1.73	0.93	1.57
5601-FSS-SU10-1010-E	0.85	0.89	0.87	1.17
5601-FSS-SU10-1010-W	0.98	0.62	0.82	1.05

Notes:
 Exceeds SWCLS
 Results obtained from "Draft Final Status Survey Report" September 2008

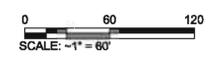
J:\Projects\M-RRG\0801 - Glen Cove Waterfront\DEGEIS ENV SEADownload\Fig 2C.2.dwg

INFORMATION PROVIDED BY:
 ECC 1746 COLE BLVD.
 BUILDING 21, SUITE 350
 LAKEWOOD, CO 80401



DRAFT FINAL STATUS SURVEY RESULTS

- SITE BOUNDARY
- METALS AREA, EXCAVATION CUT LINES
- EXCEEDS SITE-WIDE CLEANUP OBJECTIVES - RADIOLOGICAL
- ENDPOINT SAMPLE APPROXIMATE LOCATION



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REVISIONS	DATE	INITIALS	COMMENTS

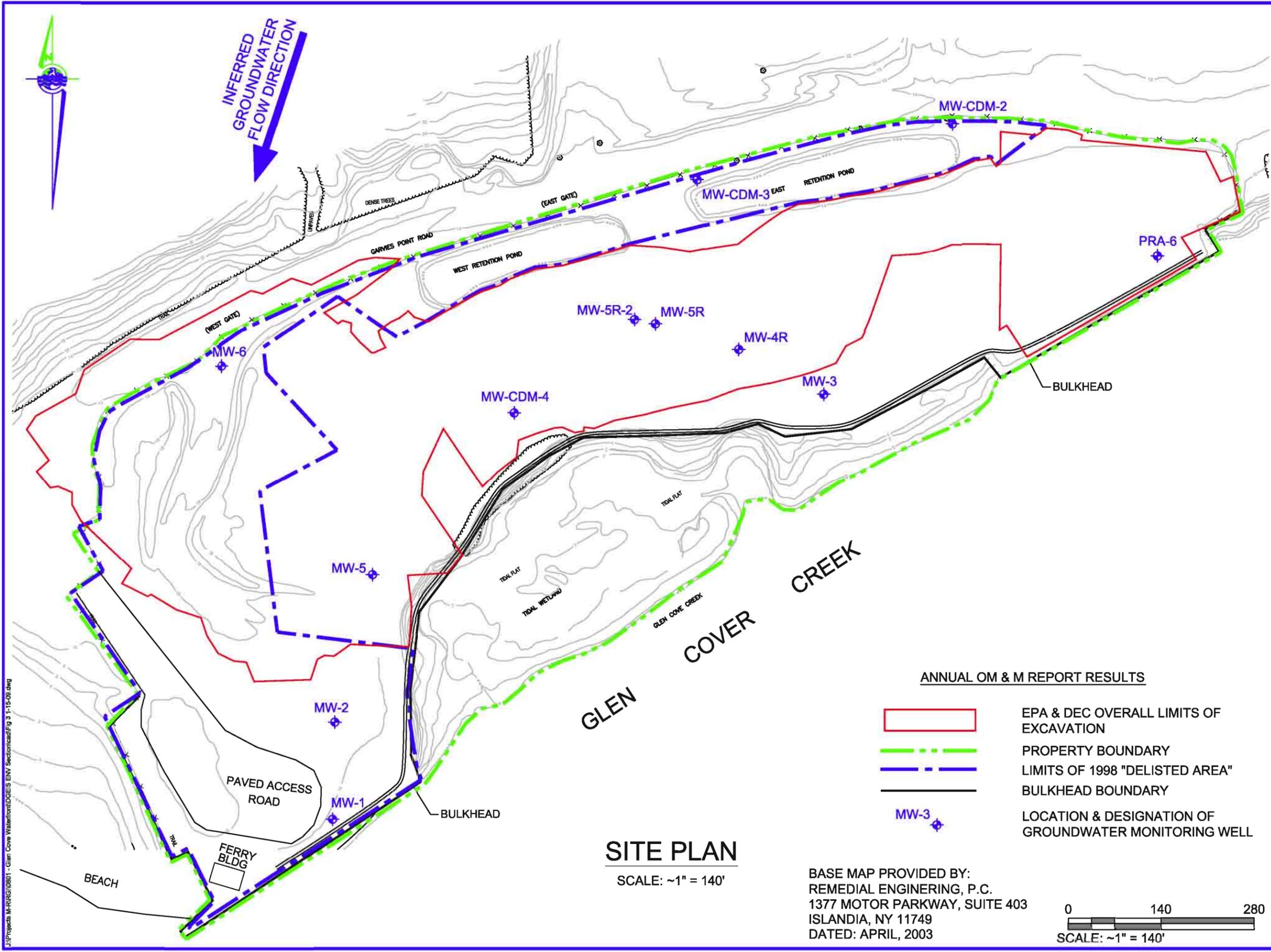
DRAWING INFORMATION	
PROJECT: RGI0801	APPROVED BY: LS
DESIGNED BY: BB	DATE: 1/21/09
DRAWN BY: LLG	SCALE: AS SHOWN

LI TUNGSTEN PARCEL
 "C & C"
 RADIOLOGICAL SURVEY UNIT
 FINAL SAMPLE LOCATIONS

GLEN ISLE WATERFRONT
 REVITALIZATION PROJECT
 GLEN COVE, NY

FIGURE NO
2C.2

SHEET **8** OF **16**



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DRAWINGS PREPARED FOR

RXR
 GLEN ISLE PARTNERS, LLC

REVISION	DATE	INITIALS	COMMENTS

DRAWING INFORMATION

PROJECT:	RG10801	APPROVED BY:	LS
DESIGNED BY:	ZY	DATE:	12/12/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

CAPTAIN'S COVE
 GLEN ISLE WATERFRONT REVITALIZATION PROJECT
 GLEN COVE, NY

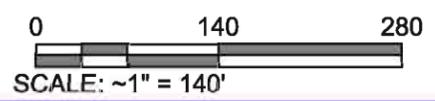
FIGURE NO 3
 SHEET 9 OF 16

ANNUAL OM & M REPORT RESULTS

- EPA & DEC OVERALL LIMITS OF EXCAVATION
- PROPERTY BOUNDARY
- LIMITS OF 1998 "DELISTED AREA"
- BULKHEAD BOUNDARY
- MW-3 LOCATION & DESIGNATION OF GROUNDWATER MONITORING WELL

SITE PLAN
 SCALE: ~1" = 140'

BASE MAP PROVIDED BY:
 REMEDIAL ENGINEERING, P.C.
 1377 MOTOR PARKWAY, SUITE 403
 ISLANDIA, NY 11749
 DATED: APRIL, 2003



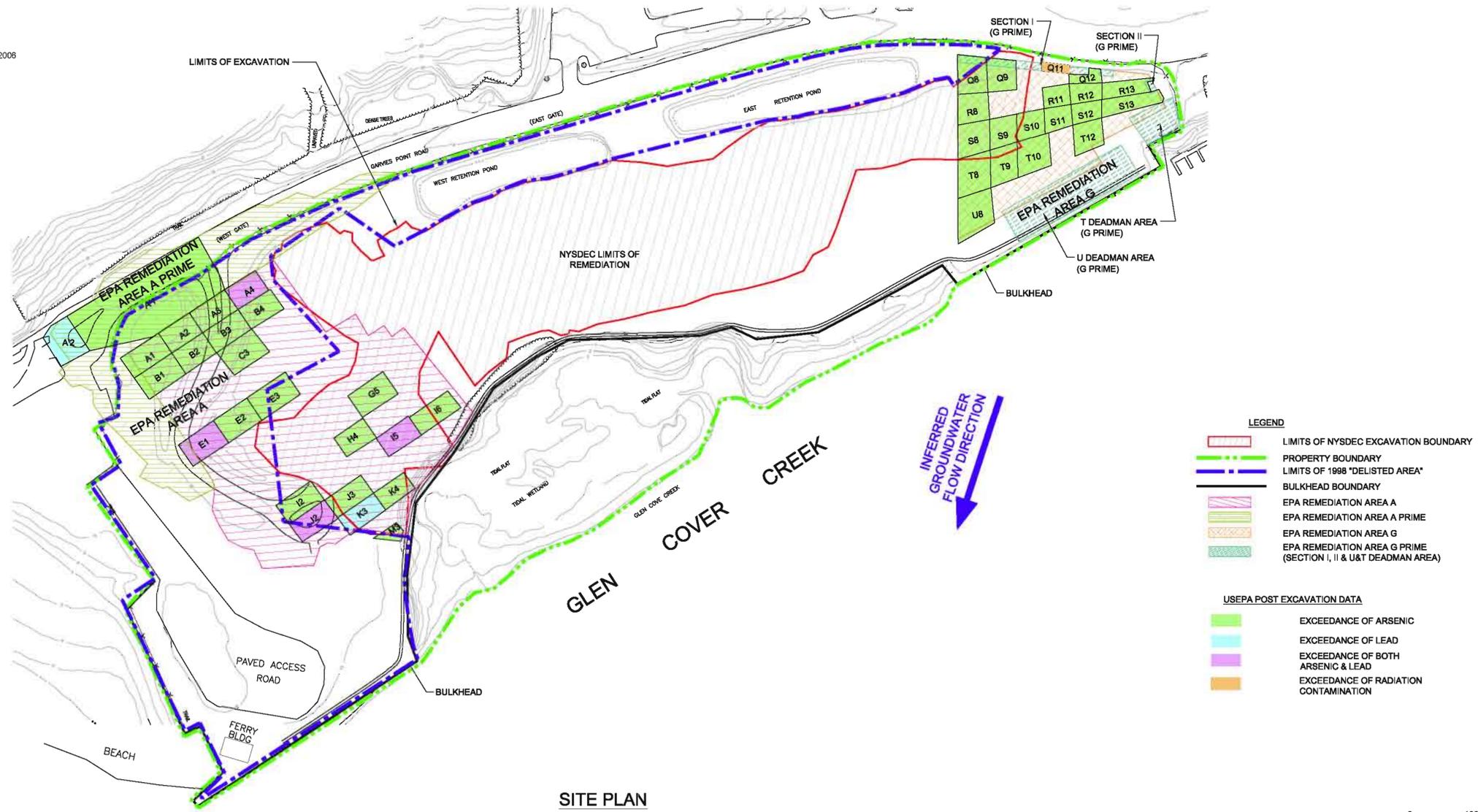
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Post Excavation Metal Data			
Location	Excavation Depth (ft)	Arsenic (mg/Kg)	Lead (mg/Kg)
A*1	8-14	84.4	230
A*2	8-12	ND	770
A1	12	120	89
A2	12	138	121
A3	12	127	96
A4	6-12	136	884
B1	6-12	125	ND
B2	12	120	ND
B3	12	173	108
B4	12	120	193
C3	8-12	130	ND
E1	7	222	539
E2	9	166	ND
E3	9	130	ND
G5	4-5	122	ND
H4	6-9	144	ND
I2	3-8	460	ND
I5	3-8	140	777
I6	3-8	220	ND
J2	4-6	290	896
J3	5-6	156	ND
K3	5-6	ND	869
K4	5-6	130	ND
M3	2-6	166	ND
Q8	10-12	62	78
Q9	10-12	49	53
Q12	10-12	43	ND
R8	10-12	138	ND
R11	10-12	94	ND
R12	10-12	33	ND
R13	10-12	54	111
S8	12-14	180	53
S9	12-14	81	ND
S10	12-14	173	ND
S11	12-14	43	ND
S12	12-14	74	ND
S13	12-14	83	241
T8	12-14	35	79
T9	12-14	235	53
T10	12-14	53	136
T12	3	96	ND
U8	3-6	84	112

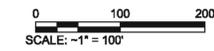
Post Excavation Radiological Data			
Location	Excavation Depth (ft)	Radium (pCi/g)	Thorium (pCi/g)
A*7	3-5	11	4.4
Q11	4	23.3	ND

Notes:
 Values exceed site specific response criteria (cited below)
 Background = 1 pCi/g for Radium226 and Thorium232
 Radium = 5 pCi/g above background
 Thorium = 5 pCi/g above background
 Results obtained from "Remedial Action Report for Operable Unit 2" September 2006

Notes:
 Values exceed site specific response criteria (cited below)
 Exceeds NYSDEC Part 375 Restricted Residential Use Soil Cleanup Objectives (cited below)
 Site specific response criteria:
 Arsenic = 24 (mg/Kg)
 Lead = 400 (mg/Kg)
 Part 375 soil cleanup objectives:
 Lead = 400 (mg/Kg)
 Arsenic = 16 (mg/Kg)
 Results obtained from "Remedial Action Report for Operable Unit 2" September 2006



SITE PLAN
 SCALE: -1" = 100'



CONSULTANTS

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DRAWINGS PREPARED FOR

RXR
 GLEN ISLE PARTNERS, LLC

REVISIONS DATE INITIAL COMMENTS

DRAWING INFORMATION

PROJECT:	RG1001	APPROVED BY:	PWG
DESIGNED BY:	BB	DATE:	1/15/09
DRAWN BY:	LLD	SCALE:	AS SHOWN

SHEET TITLE

CAPTAIN'S COVE
 EPA LIMITS OF EXCAVATION AND
 POST EXCAVATION DATA
 GLEN ISLE WATERFRONT
 REVITALIZATION PROJECT
 GLEN COVE, NY

FIGURE NO
 3A

SHEET
 10 OF 16

J:\Projects M-R\RG1001 - Glen Cove Waterfront\DCIEIS ENV Section\cad\fig 3A 2-4-09.dwg

BASE MAP PROVIDED BY:
 REMEDIAL ENGINEERING, P.C.
 1377 MOTOR PARKWAY, SUITE 403
 ISLANDIA, NY 11749
 DATED: APRIL, 2003

Gladsky Soil Sample Results-Supplemental Phase II																													
Sample ID	G-SS-2	G-SS-2B	G-SS-2C	G-SS-3	G-SS-3B	G-SS-3C	G-SS-4	G-SS-4B	G-SS-4C	G-SS-6A	G-SS-6B	G-SS-6C	G-SS-7A	G-SS-7B	G-SS-7C	G-SS-8A	G-SS-8B	G-SS-8C	G-SS-9A	G-SS-9B	G-SS-9C	G-SS-10A	G-SS-10B	G-SS-10C	TAGM Value	USEPA Risk Based Concentration	NY SDEC Part 375 Unrestricted Use Soil Cleanup Objectives	NY SDEC Part 375 Restricted Residential Use Soil Cleanup Objectives	
Date Collected	4/13/2000	3/13/2002	3/13/2002	4/13/2000	3/12/2002	3/12/2002	4/13/2000	6-12	4/13/2000	6-12	4/13/2000	6-12	3/13/2002	6-12	3/13/2002	6-12	3/13/2002	6-12	3/13/2002	6-12	3/13/2002	6-12	3/13/2002	6-12	3/13/2002				
Semivolatile Organics (ug/Kg)																													
Naphthalene	7,600 D	U	U	U	77 J	130 J	180 J	89 J	570 J	99 J	U	U	260 J	U	U	U	U	U	U	U	U	U	U	U	U	13,000	41,000,000	12000	100000
2-Methylnaphthalene	18,000 D	U	U	U	140 J	77 J	100 J	92 J	200 J	U	U	U	470	51 J	U	450 J	43 J	U	U	U	U	U	U	U	U	35,400	41,000,000	NS	NS
Acenaphthylene	U	U	U	U	110 J	1,000	32 J	910	7,300	46 J	U	U	54 J	U	U	U	190 J	59 J	U	U	U	260 J	81 J	75 J	U	100,000	100,000	100,000	100,000
Acenaphthene	U	U	U	U	U	U	U	U	U	U	U	U	180 J	U	U	U	U	U	U	U	U	U	U	U	U	50,000	120,000,000	20,000	100,000
Dibenzofuran	U	U	U	U	U	120 J	150 J	55 J	410 J	U	U	U	130 J	U	U	U	U	U	U	U	U	U	U	U	U	6,200	8,200,000	NS	NS
Fluorene	U	U	U	U	U	280 J	350 J	100 J	2,200 J	U	U	U	210 J	U	U	U	U	U	U	U	U	U	U	U	U	50,000	82,000,000	30,000	100,000
Phenanthrene	U	47 J	490 J	U	220 J	2,500	11,000 D	1,200	12,000	290 J	U	U	2,000	64 J	180 J	1,300 J	170 J	330 J	210 J	64 J	310 J	170 J	91 J	65 J	U	50,000	100,000	100,000	100,000
Anthracene	U	U	U	U	84 J	700	410	3,800	69 J	U	U	U	360 J	U	U	U	110 J	56 J	U	73 J	U	U	U	U	U	50,000	810,000,000	100,000	100,000
Floranthene	U	77 J	U	28,000	400	3,600	20,000 D	2,300	24,000	370 J	72 J	U	2,500	120 J	280 J	U	150 J	600	410 J	120 J	410	300 J	180 J	130 J	U	50,000	82,000,000	100,000	100,000
Pyrene	U	81 J	U	2,500 D	700	5,000	25,000 D	3,600	33,000	350 J	52 J	U	2,400	110 J	230 J	U	170 J	600	560	140 J	340 J	330 J	180 J	140 J	U	50,000	51,000,000	100,000	100,000
Benzo (a) anthracene	U	40 J	U	2,200	250 J	2,200	12,000 D	1,700	15,000	190 J	41 J	U	1,200	110 J	140 J	U	83 J	330 J	250 J	88 J	220 J	180 J	100 J	74 J	U	224 or MDL	7,600	1000	1000
Chrysene	U	78 J	620 J	U	2,200	2,400	11,000 D	1,500	14,000	290 J	47 J	U	1,400	130 J	180 J	U	210 J	360	290 J	82 J	240 J	220 J	120 J	88 J	U	400	750,000	1000	3500
Benzo (b) fluoranthene	U	100 J	U	2,200	350	3,500	18,000 D	2,900	25,000	350 J	48 J	U	1,800	210 J	180 J	U	170 J	450	450 J	120 J	260 J	370	180 J	160 J	U	1100	7,500	1000	1000
Benzo (k) fluoranthene	U	39 J	U	560 J	1,400	4,300 D	1,100	3,700	110 J	U	U	U	540	73 J	66 J	U	49 J	180 J	120 J	44 J	76 J	130 J	61 J	57 J	U	1100	79,000	800	3900
Benzo (a) pyrene	U	41 J	U	250 J	1,800	8,200 D	1,500	14,000	170 J	U	U	U	1,000	150 J	130 J	U	75 J	280 J	270 J	65 J	170 J	220 J	100 J	85 J	U	61 or MDL	780	1000	1000
Ideno (1,2,3-cd) pyrene	U	U	U	920 J	140 J	720	3,400 JD	650	5,000	97 J	U	U	350	97 J	70 J	U	38 J	120 J	110 J	U	92 J	150 J	52 J	47 J	U	3200	7,600	500	500
Dibenzo (a,h) anthracene	U	U	U	U	36 J	200 J	1,800	150 J	1,500 J	U	U	U	110 J	U	U	U	U	U	U	U	U	U	U	U	U	14 or MDL	780	330	330
Benzo (g,h,i) perylene	U	U	U	1,100 J	180 J	640	2,800 JD	560	4,200	84 J	U	U	330 J	96 J	65 J	U	35 J	95 J	100 J	U	80 J	180 J	53 J	49 J	U	50,000	NS	100000	100000
Total carcinogenic PAHs	U	298	620	8,110	1,766	12,320	58,800	9,360	83,200	1,207	136	U	6,440	770	746	U	626	1,730	1,490	383	1,058	1,304	613	511	U	10,000	NS	NS	NS
Total PAHs	25,800	503	1,110	14,510	3,657	25,367	121,002	18,916	188,680	2,717	260	U	15,334	1,211	1,537	3,600	1,194	3,625	2,884	707	2,271	2,689	1,237	970	NS	NS	NS	NS	
Metals (mg/Kg)																													
Arsenic	3.380	44.4	30.9	94.5	33.3	46.1	26.3	11	22.4	29.1	6.7	5.9	14.5	9.1	7	14.4	9.4	10.1	102	23.9	5.1	13.5	17.9	10.3	7.5 or SB	3.8	13	16	
Cadmium	4.6	0.92	1.4	13.2	12.8	1	4.1	0.63	0.46	3.8	0.37	0.32	2.5	1.3	0.6	0.97	0.68	1.4	0.96	0.82	1.5	0.7	0.43	10 or SB	1000	2.5	4.3		
Chromium	653	13.5	21	198	53	14.7	101	12.1	14	47.4	11.1	16.8	17.9	19	21.3	16.6	15.6	16.6	18.3	18.8	14.5	58 or SB	3100000	30	180				
Copper	4,310	83.1	61.3	10,000	338	52	450	210	74.1	303	22.2	27.6	388	130	85.7	116	47.3	63.1	65.2	25.5	51.5	97.5	30.3	25 or SB	82000	50	270		
Lead	1,390	65.7	67.3	27,800	738	107	740	41.7	35.3	262	16.1	47.5	145	90.8	61.8	183	79.6	50	132	54.9	77.9	239	130	55.1	400*	63	400		
Nickel	107	10.4	19.9	90.6	20.7	9.6	82.1	11.1	10.9	21.7	8.9	10.6	15.3	10.7	7.8	23.4	9.7	17.1	12	9.2	9	11.9	10.8	7.6	13 or SB	41000	30	310	
Zinc	2,350	59.2	167	3,250	355	83.1	1,070	42.9	36.2	290	34	66.2	359	319	57.3	204	57.5	31.7	121	65.3	74.1	122	75.4	47.7	20 or SB	610000	109	10000	

Results obtained from "Phase II Environmental Site Assessment Report" September 2002

Gladsky Soil Sample Results													
Sample ID	G-SS-2	G-SS-3	G-SS-4	G-SS-5	G-P-1	G-P-2	G-P-3	G-P-4	G-P-5	TAGM Value	USEPA Risk Based Concentration	NY SDEC Part 375 Unrestricted Use Soil Cleanup Objectives	NY SDEC Part 375 Restricted Residential Use Soil Cleanup Objectives
Date Collected	4/13/2000	4/13/2000	4/13/2000	4/13/2000	4/13/2000	4/13/2000	4/13/2000	4/13/2000	4/13/2000				
Semivolatile Organics (ug/Kg)													
Phenol	100 J	U	U	U	U	U	U	U	U	30 or MDL	1200000000	330	100000
Benzo (a) anthracene	U	2200	12000 D	660	U	260 J	U	224 or MDL	7800	1000	1000	1000	1000
Chrysene	U	2200	11000 D	890	U	U	U	400	7800000	1000	3900	1000	3900
Benzo (b) fluoranthene	U	2200	18000 D	980	U	U	U	1100	7800	1000	1000	1000	1000
Benzo (k) fluoranthene	U	590 J	4300 D	310 J	U	U	U	1100	78000	1000	3900	1000	3900
Benzo (a) pyrene	U	U	8200 D	500	U	170 J	U	61 or MDL	780	1000	1000	1000	1000
Ideno (1,2,3-cd) pyrene	U	920 J	3400 D	500	U	U	U	3200	7800	500	500	500	500
Dibenzo (a,h) anthracene	U	U	1900	130 J	U	U	U	14 or MDL	780	330	330	330	330
Total carcinogenic SVOCs	U	8110	58800	3970	U	U	U	NS	NS	NS	NS	NS	NS
PCBs (ug/Kg)													
Aroclor-1254	U	430 P	1100	150 P	U	U	U	1000	2900	NS	NS	NS	NS
Total PCBs	U	430	1100	150	U	U	U	1000	2900	1000	1000	1000	1000
Metals (mg/Kg)													
Arsenic	3380	94.5	26.2	15.1	1.6 B	4.7	1.4	7.5 or SB	3.8	13	16	16	
Barium	1220	208	83.5	63.5	19.6	25.2	16.2	300 or SB	140000	350	400	400	
Beryllium	0.26 B	0.18 B	0.21 B	U	0.26 B	0.15 B	0.24 B	0.18 or SB	4100	7.2	72	72	
Cadmium	4.6	13.2	4.1	17.1	0.25	0.74	0.19	10 or SB	1000	2.5	4.3	4.3	
Chromium	553	168	101	674	10.6	11.7	6.8	50 or SB	310000	30	180	180	
Cobalt	45.2	16.8	13.4	42.1	5.2	2.5	3.3	30 or SB	120000	NS	NS	NS	
Copper	4310	10000	450	122	11.1	23.7	6.4	25 or SB	82000	50	270	270	
Iron	115000	115000	57200	525000	10100	9170	7170	2060 or SB	610000	NS	NS	NS	
Lead	1390	2730	740	7590	7.3	49.5	6.6	400*	NS	63	400	400	
Mercury	0.15	0.19	0.15	U	U	U	U	0.1	NS	0.18	0.81	0.81	
Nickel	107	90.6	92.1	96.5	9.8	6.9	5.2	13 or SB	41000	30	310	310	
Selenium	4.7	6.5	4.5	20.8	U	U	U	2 or SB	10000	3.9	180	180	
Zinc	2350	3250	1070	32.5	20.5	98.4	17.5	20 or SB	610000	109	10000	10000	

Results obtained from "Phase II Environmental Site Assessment Report" December 2000

Anglers Club Soil Sample Results												
Sample ID	AC-SS-1	AC-SS-3	AC-SS-2	AC-P-1	AC-P-2	AC-P-4	G-P-1	G-P-2	G-P-4	TAGM Value	USEPA Risk Based Concentration	NY SDEC Part 375 Unrestricted Use Soil Cleanup

Anglers Club Groundwater Sample Results					
Sample ID	AC-P-1-GW	AC-P-2-GW	AC-P-3-GW	AC-P-4-GW	Class GA Groundwater Standard
Date Sampled	4/12/2000	4/12/2000	4/12/2000	4/12/2000	
Volatiles Organics (ug/Kg)					
Bromomethane	43	U	U	U	5
1,1-Dichloroethene	23	U	U	U	5
1,2-Dichloroethene	530 D	U	U	U	5
1,1,1-Trichloroethene	3 J	U	U	U	0.6
1,1,2-Trichloroethene	8 J	U	U	U	5
Trichloroethene	170 D	3 J	U	U	5
Tetrachloroethene	300 D	1 J	U	U	5
Metals (mg/Kg)					
Antimony (total)	U	U	U	U	3
Antimony (dissolved)	3.1 B	6.0 B	5.7 B	7.2 B	3
Arsenic (total)	32.5	8.6 B	44.7	42	25
Arsenic (dissolved)	3.7 B	5.4 B	5.9 B	5.4	25
Beryllium (total)	4.2 B	2.2 B	6.5	8.2	3 GV
Beryllium (dissolved)	U	U	U	U	3 GV
Cadmium (total)	7.9	0.55 B	3.2 B	9.7	5
Cadmium (dissolved)	U	U	U	0.55 B	5
Chromium (total)	269	116	227	417	50
Chromium (dissolved)	2.6 B	U	U	U	50
Copper (total)	277	48.4	126	179	200
Copper (dissolved)	2.6 B	2.7 B	4.7 B	6.3 B	200
Iron (total)	84300	45600	139000	294000	300
Iron (dissolved)	20.5 B	116	29.8 B	29.4 B	300
Lead (total)	510	27.5	94.0	103	25
Lead (dissolved)	U	U	U	U	25
Magnesium (total)	27500	18000	17300	133000	35000 GV
Magnesium (dissolved)	19000	13600	8510	136000	35000 GV
Manganese (total)	47100	1710	1300	1260	300
Manganese (dissolved)	5680	1170	62.6	218	300
Nickel (total)	260	71.9	152	265	100
Nickel (dissolved)	26.6 B	5.4 B	U	6.7 B	100
Selenium (total)	U	U	U	13.4	10
Selenium (dissolved)	U	8.9	7	12.9	10
Sodium (total)	119000	37800	725000	876000	20000
Sodium (dissolved)	122000	35700	729000	12300000	20000
Thallium (total)	36.6	U	U	U	0.5 GV
Thallium (dissolved)	U	U	U	U	0.5 GV

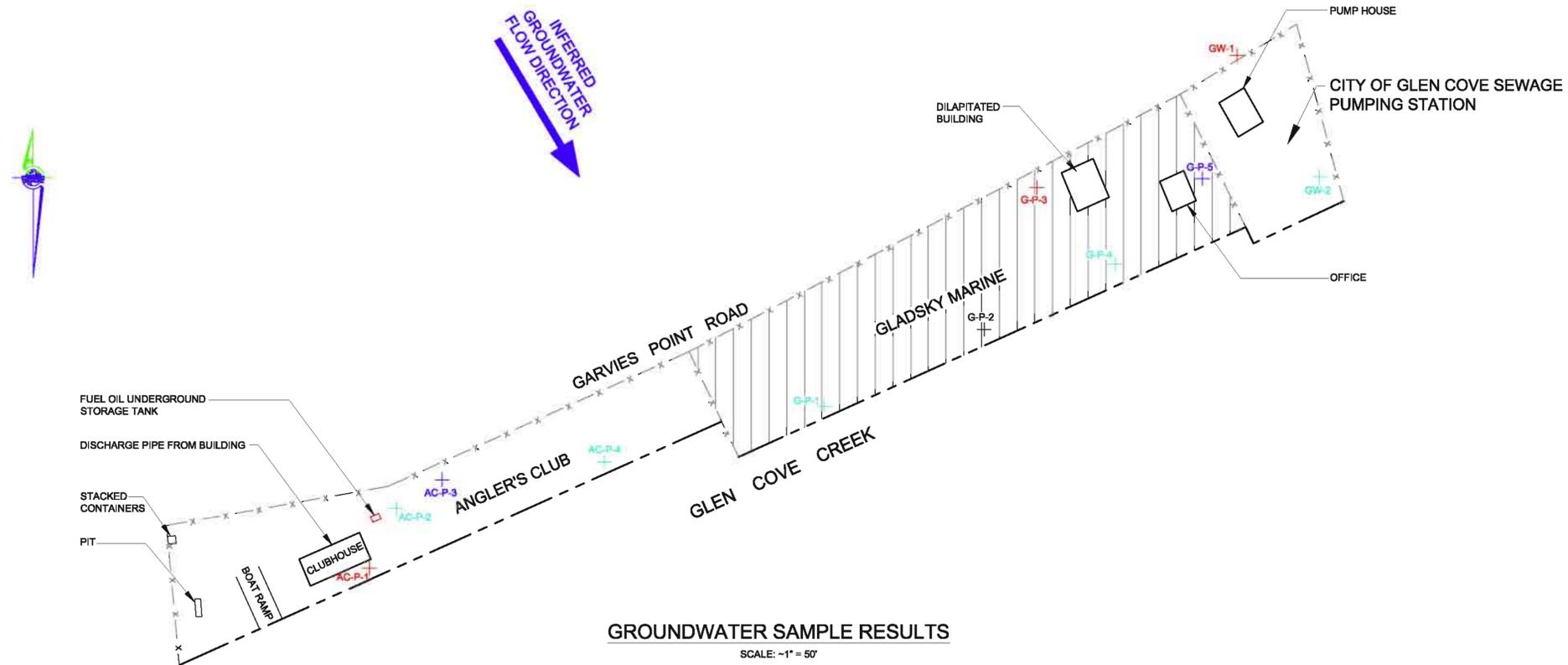
Results obtained from "Phase II Environmental Site Assessment Report" December 2000

Gladsky Groundwater Sample Results						
Sample ID	G-P-1-GW	G-P-2-GW	G-P-3-GW	G-P-4-GW	G-P-5-GW	Class GA Groundwater Standard
Date Sampled	4/12/2000	4/12/2000	4/13/2008	4/13/2008	4/13/2008	
Volatiles Organics (ug/L)						
Vinyl Chloride	U	U	10	U	U	2
1,1-Dichloroethene	U	U	7 J	U	U	5
1,2-Dichloroethene (total)	U	U	51	U	1 J	0.6
Trichloroethene	U	U	36	U	U	5
Metals (ug/L)						
Antimony (total)	U	U	U	U	28.1 B	3
Antimony (dissolved)	U	U	3.5 B	4.4 B	5 B	3
Arsenic (total)	8 B	14.9	40.5	U	23.8	25
Arsenic (dissolved)	5 B	U	U	U	U	25
Barium (total)	42.5 B	105 B	964	86.3 B	2720	1000
Barium (dissolved)	14.3 B	U	49.1 B	55.1 B	62.5 B	1000
Beryllium (total)	0.59 B	2.4 B	7.5	U	29.3	3 GV
Beryllium (dissolved)	U	U	U	U	U	3 GV
Cadmium (total)	0.92	1.7 B	10.1	U	27.2	5
Cadmium (dissolved)	U	U	0.69 B	U	U	5
Chromium (total)	43	168	346	24.4	731	50
Chromium (dissolved)	U	U	12.3	2.1 B	U	50
Copper (total)	66.2	51.5	530	6.4 B	495	200
Copper (dissolved)	4.5 B	U	4.7 B	2.7 B	U	200
Iron (total)	24200	82900	266000	5250	1230000	300
Iron (dissolved)	1080	5380	32.5 B	2610	3360	300
Lead (total)	90.4	53	189	5.1	391	25
Lead (dissolved)	U	U	4.1	U	2.1 B	25
Magnesium (total)	42200	36800	28400	49000	99700	35000 GV
Magnesium (dissolved)	40200	23500	16600	47500	24800	35000 GV
Manganese (total)	461	1820	41700	2480	5350	300
Manganese (dissolved)	348	935	16500	2520	577	300
Mercury (total)	U	U	0.91	U	U	0.7
Mercury (dissolved)	U	U	U	U	U	0.7
Nickel (total)	33.2 B	79.5	300	12.7 B	649	100
Nickel (dissolved)	4.6 B	3.2 B	34.1 B	U	4.9 B	100
Selenium (total)	8.8	9.9	21.8	U	27.1	10
Selenium (dissolved)	6.8	U	U	U	U	10
Sodium (total)	300000	43500	66600	405000	125000	20000
Sodium (dissolved)	367000	25500	66700	417000	137000	20000
Thallium (total)	U	U	35.8	U	U	0.5 GV
Thallium (dissolved)	U	U	16.2	U	U	0.5 GV

Results obtained from "Phase II Environmental Site Assessment Report" December 2000

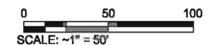
Pump Station Groundwater Sample Results			
Sample ID	GW-1	GW-2	NYSDEC Class
Depth (ft)	18-20	8-12	GA Standard
Date Collected	12/2/2004	12/2/2004	
Volatiles Organics (ug/L)			
Vinyl Chloride	13	U	2 ST
cis-1,2-Dichloroethene	230D	5 J	5 ST
Trichloroethene	10	U	5 ST
Semivolatile Organics (ug/L)			
Fluorene	U	100 J	50 GV
Metals (mg/L)			
Antimony (total)	7.3	U	3 ST
Antimony (dissolved)	5.6 B	U	3 ST
Arsenic (total)	125 B	330	25 ST
Arsenic (dissolved)	58	28.8	25 ST
Beryllium (total)	4.3 B	2.3 B	3 GV
Cadmium (total)	U	16.8	5 ST
Chromium (total)	367	1,130	50 ST
Copper (total)	364	1,740	200 ST
Iron (total)	687,000	2,000,000	300 ST*
Iron (dissolved)	455,000	28,100	300 ST*
Lead (total)	112	297	25 ST
Magnesium (total)	69,500	28,800	35,000 GV
Magnesium (dissolved)	60,400	13,900	35,000 GV
Manganese (total)	10,200	3,300	300 ST*
Manganese (dissolved)	9,100	1,940	300 ST*
Nickel (total)	272	643	100 ST
Nickel (dissolved)	114	45.5 B	100 ST
Silver (total)	114	91.8	50 ST
Sodium (total)	813,000	155,000	20,000 ST
Sodium (dissolved)	836,000	149,000	20,000 ST
Thallium (total)	67.2	19.4	0.5 GV
Thallium (dissolved)	47.9	3 B	0.5 GV

Results obtained from "Phase II Environmental Site Assessment Report DRAFT" January 2005



- LEGEND**
- AREA TO BE EXCAVATED MINIMUM OF 2 FEET NYSDEC PROPOSED REMEDIAL ACTION PLAN DUE TO METALS, SVOCs
 - GROUNDWATER SAMPLE LOCATION (INITIAL PHASE II ESA)
 - EXCEEDS METALS
 - EXCEEDS METALS AND SVOC
 - EXCEEDS METALS AND VOC
 - EXCEEDS METALS, SVOC AND PCB

Notes:
 Concentration Exceeds Groundwater Standard or Guidance Value
 U: Compound analyzed for but not detected
 B: Concentration is between instrument detection limit and contract required detection limit
 J: Compound found below CRDL, value estimated
 D: Result obtained from analysis at a secondary dilution
 ST: Standard
 GV: Guidance Value
 * Standard applies to the sum of iron and manganese
 NA: Not analyzed
 Results obtained from "Supplemental Phase II Environmental Site Assessment Report" September 2002



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CONSULTANTS

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DRAWINGS PREPARED FOR

RXR
 GLEN ISLE PARTNERS, LLC

REVISIONS DATE INITIAL COMMENTS

DRAWING INFORMATION

PROJECT:	RG0061	APPROVED BY:	LS
DESIGNED BY:	BB	DATE:	1/8/08
DRAWN BY:	LLG	SCALE:	AS SHOWN

SHEET TITLE

ANGLERS CLUB,
 GLADSKY MARINE & PUMP STATION
 GROUNDWATER SAMPLE RESULTS

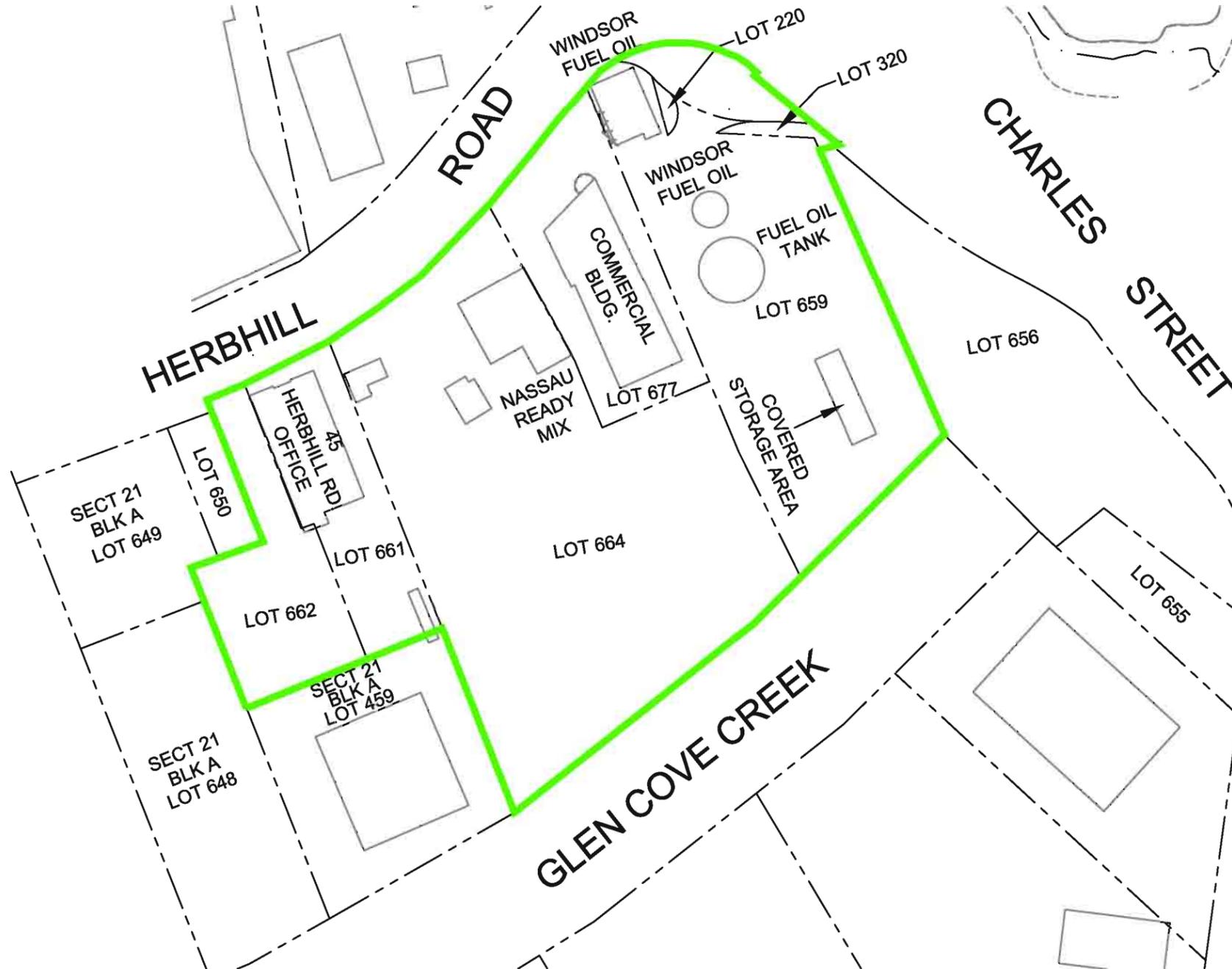
GLEN ISLE WATERFRONT
 REVITALIZATION PROJECT
 GLEN COVE, NY

FIGURE NO
 4B

SHEET
 13 OF 16

J:\Projects M-R\RG\10801 - Glen Cove Waterfront\ES&IS ENY Section\04\Fig 4B Anglers Gladsky 2-4-08.dwg

INFORMATION PROVIDED BY:
 PHASE I & PHASE II ESA'S PREPARED
 FOR THE CITY OF GLEN COVE BY
 DVIRKA AND BARTILUCCI
 CONSULTING ENGINEERS



SITE PLAN
SCALE: ~1" = 100'

LEGEND

— GATEWAY PROPERTY BOUNDARIES

SCALE: ~1" = 100'

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DRAWINGS PREPARED FOR

RXR
GLEN ISLE PARTNERS, LLC

REVISION	DATE	INITIALS	COMMENTS

DRAWING INFORMATION	
PROJECT: RG/0801	APPROVED BY: LS
DESIGNED BY: ZY	DATE: 1/20/09
DRAWN BY: LLG	SCALE: AS SHOWN

SHEET TITLE

**SITE PLAN
GATEWAY PROPERTIES
GLEN ISLE WATERFRONT
REVITALIZATION PROJECT
GLEN COVE, NY**

FIGURE NO 6

SHEET 16 OF 16

L:\Projects\M-R\RG\0801 - Glen Cove Waterfront\DWG\ENY Section\caat\Fig 6.dwg

APPENDIX A



KONICA MINOLTA

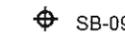
LEGEND



FENCING



MW-4 MONITORING WELL



SB-09 DIRECT-PUSH GROUNDWATER SAMPLE

LABORATORY DATA QUALIFIERS

J - Estimated
 ND - Not Detected
 D - Dilution

- Exceeds New York State Class GA Groundwater Standard or Guidance Value

CD-GW-07/CD-GW-07DUP (OCTOBER 2007)			
COMPOUND	RESULT (ug/l)		
DEPTH (FT):	9-10	17-18	24-25
Tetrachloroethene	1,800 D/1,800 D	23	170
Trichloroethene	780 D/790 D	11	44
cis 1,2 Dichloroethene	3,200 D/3,300 D	32 J	140
Vinyl Chloride	160/160	5	9
Methyl tert-butyl ether	2 J/2 J	ND	ND
1,1-Dichloroethene	2 J/2 J	ND	ND
trans-1,2-Dichloroethene	40/42	ND	2 J

KONICA MINOLTA

GM-9 (SEPTEMBER 2007)	
COMPOUND	RESULT (ug/L)
Tetrachloroethene	2,800 D
Trichloroethene	830 D
cis 1,2 Dichloroethene	3,100 D
trans-1,2 Dichloroethene	12
1,1 Dichloroethene	3 J
Vinyl Chloride	180
Methyl tert-butyl ether	13
Xylene (total)	1
tert-Butylbenzene	1

LI TUNGSTEN PARCEL B

CROWN DYKMAN

GM-1 (SEPTEMBER 2007)	
COMPOUND	RESULT (ug/L)
Trichloroethene	4 J
cis 1,2 Dichloroethene	5
1,1 Dichloroethene	2 J
Vinyl Chloride	1 J
1,1,2 Trichloroethane	53
Naphthalene	2 J

MP-20 (SEPTEMBER 2007)	
COMPOUND	RESULT (ug/L)
Tetrachloroethene	69
Trichloroethene	35
cis 1,2 Dichloroethene	680 D
trans-1,2 Dichloroethene	5
1,1 Dichloroethene	1 J
Vinyl Chloride	7
Methyl tert-butyl ether	3 J
1,1,2 Trichloroethane	1 J

HERB HILL ROAD

LI TUNGSTEN PARCEL A



DRAFT



KONICA MINOLTA

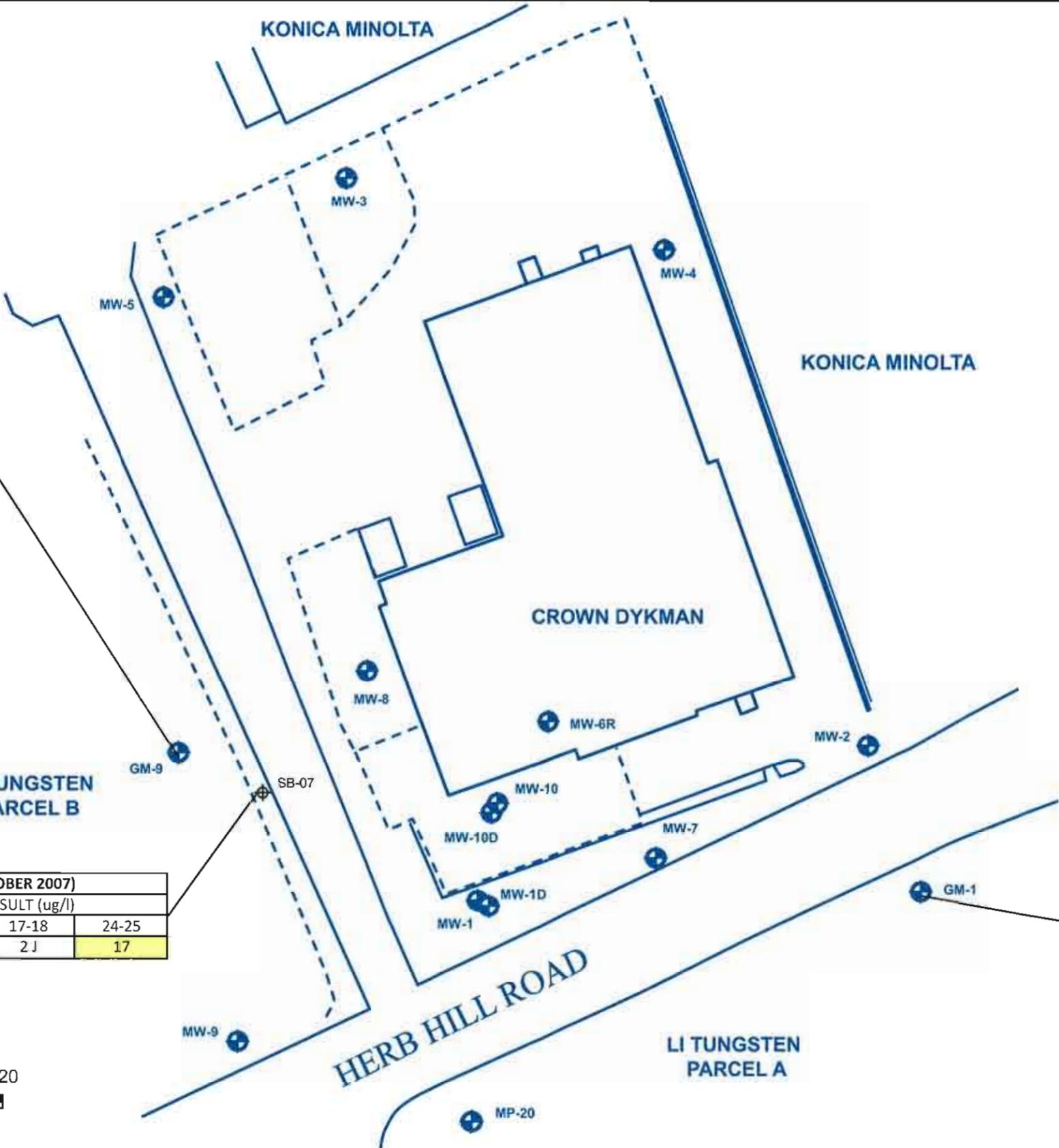
LEGEND

- MONITORING WELL
- FENCING

LABORATORY DATA QUALIFIERS

- J – Estimated
- ND – Not Detected
- Exceeds New York State Class GA Groundwater Standard or Guidance Value

GM-9 (SEPTEMBER 2007)	
COMPOUND	RESULT (ug/L)
Diethylphthalate	1 J



CD-GW-07/CD-GW-07DUP (OCTOBER 2007)			
COMPOUND	RESULT (ug/l)		
DEPTH (FT):	9-10	17-18	24-25
bis(2-Ethylhexyl)phthalate	9 J/8 J	2 J	17

GM-1 (SEPTEMBER 2007)	
COMPOUND	RESULT (ug/L)
Phenol	2 J



DRAFT



KONICA MINOLTA

LEGEND

- MONITORING WELL
- FENCING

LABORATORY DATA QUALIFIERS

- J – Estimated
- Exceeds New York State Class GA Groundwater Standard or Guidance Value

GM-9 (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
Tetrachloroethene	1,700
Trichloroethene	660
cis-1, 2-Dichloroethene	2,600
Vinyl Chloride	370

MW-9/MW-9 DUP (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
cis-1, 2-Dichloroethene	710/690
trans-1, 2-Dichloroethene	5.2/6.6
Vinyl Chloride	62/63

GM-1 (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
Tetrachloroethene	1.1
Trichloroethene	2.6
cis-1, 2-Dichloroethene	3.1
1,1,2-Trichloroethane	19

MP-20 (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
Tetrachloroethene	21
Trichloroethene	9.8
cis-1, 2-Dichloroethene	240
trans-1, 2-Dichloroethene	2.3
Vinyl Chloride	2.3

LI TUNGSTEN
PARCEL B

LI TUNGSTEN
PARCEL A

HERB HILL ROAD

CROWN DYKMAN

KONICA MINOLTA

DRAFT



**MALCOLM
PIRNIE**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REMEDIAL INVESTIGATION - CROWN DYKMAN (SITE # 1-30-054)
GLEN COVE, NEW YORK

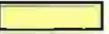
**SUMMARY OF DETECTED CHLORINATED VOLATILE ORGANIC
COMPOUNDS IN OFF-SITE GROUNDWATER SAMPLES
(SEPTEMBER 2008)**

NOVEMBER 2008



KONICA MINOLTA

LEGEND

-  MONITORING WELL
-  FENCING
-  - Exceeds New York State Class GA Groundwater Standard or Guidance Value

GM-9 (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
No BTEX Detections	

MW-9 (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
No BTEX Detections	

GM-1 (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
No BTEX Detections	

MP-20 (SEPTEMBER 2008)	
COMPOUND	RESULT (ug/L)
No BTEX Detections	



LI TUNGSTEN
PARCEL B

CROWN DYKMAN

KONICA MINOLTA

HERB HILL ROAD

LI TUNGSTEN
PARCEL A

DRAFT

**MALCOLM
PIRNIE**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REMEDIAL INVESTIGATION - CROWN DYKMAN (SITE # 1-30-054)
GLEN COVE, NEW YORK

**SUMMARY OF NON-CHLORINATED VOLATILE ORGANIC COMPOUNDS IN
OFF-SITE GROUNDWATER SAMPLES
(SEPTEMBER 2008)**

NOVEMBER 2008



ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC

209 SHAFTER STREET
Islandia, New York 11749-5074 TEL 631-232-2600 FAX 631-232-9898

January 13, 2009

Mike Mason, P.E.
Division of Environmental Remediation, 12th Floor
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7010

Re: Annual OM&M Report
Captain's Cove Condominiums Inactive Hazardous Waste Disposal Site
Glen Cove, New York
NYSDEC Site Number 1-30-032

Dear Mr. Mason:

Roux Associates, Inc. (Roux Associates) and Remedial Engineering, P.C. (Remedial Engineering), on behalf of the City of Glen Cove (the City), have prepared this Fifth Annual OM&M Report to summarize the operation, maintenance and monitoring activities performed at the Captain's Cove Condominiums Inactive Hazardous Waste Disposal Site (Site No. 1-30-032) located in Glen Cove, New York. This report includes activities performed during the 2008 reporting period. This report has been prepared in accordance with the Operation, Maintenance and Monitoring (OM&M) Plan detailed in Section 6 of the March 18, 2004 Remedial Action Completion Report (RACR) for the Site and email correspondence with the NYSDEC dated July 25, 2005. The referenced OM&M Plan is on file with the New York State Department of Environmental Conservation (NYSDEC). A site plan is provided as Figure 1.

This report is divided into two sections:

- Summary of OM&M Activities; and
- Recommended Maintenance and Corrective Actions;

The supporting tables and figure are included at the end of this report.

Summary of OM&M Activities

The frequency of site OM&M activities was reduced to semi-annually during the 2006 reporting period as per July 25, 2005 NYSDEC approval. Roux Associates collected semi-annual groundwater samples on May 28 and October 30, 2008 and completed a site inspection as part of the October 2008 sampling round. The cumulative findings/results from the semi-annual OM&M activities performed for this reporting period are discussed below.

Site Inspection

Site inspection activities performed by Roux Associates this reporting period are listed below, followed by a brief discussion of the cumulative findings from the inspections:

- Evaluating the condition of the fence along Garvies Point Road;
- Evaluating the condition of the monitoring wells;
- Noting the wetland vegetation in the areas formerly utilized as the east and west retention ponds; and
- Noting any changes to ponding within the site.

The fence along Garvies Point Road was observed to be stable and in good condition, and was locked at all entrance points. The site is accessible to pedestrians along the City's waterfront walkway.

During the site inspection, it was noted that the five site monitoring wells currently in the sampling program (MW-CDM-2, MW-CDM-3, MW-3, MW-4R and MW-5R2) are in good condition. However, safety fencing that was previously installed surrounding each well as an added measure of protection was either in disrepair or absent at all monitoring well locations.

Wetland vegetation is present year-round in the area formerly utilized as the east and west retention ponds (adjacent to MW-CDM-2 and MW-CDM-3). No significant changes have occurred since the previous monitoring period.

Ponding continues to be present in two large depressions in the central portion of the Site, in the vicinity of MW-4R and MW-CDM-3. Both ponds are surrounded by vegetation and exist year-round. Even though surface water does not seem to readily infiltrate into the apparently well-compacted soil beneath the ponded areas, it is possible that infiltration does occur at a slow rate, which may lead to leaching of former landfill contaminants from the soil.

Groundwater Monitoring

Groundwater monitoring included the collection of water levels and groundwater samples from monitoring wells MW-CDM-2, MW-CDM-3, MW-3, MW-4R, and MW-5R2 by Roux Associates, followed by the analysis of each sample by TestAmerica Laboratories, Inc. (TestAmerica) located in Shelton, Connecticut. Each groundwater sample was analyzed for volatile organic compounds (VOCs) per United States Environmental Protection Agency (USEPA) Method 8260, semivolatile organic compounds (SVOCs) per USEPA Method 8270, and metals per USEPA Method 6010. In addition to these samples, a duplicate, field blank, matrix spike, and matrix spike duplicate sample were collected during each sampling event and analyzed for the same parameters as their corresponding parent sample.

Groundwater sampling results for VOCs, SVOCs, and metals are included in Tables 1, 2, and 3, respectively. A summary of NYSDEC Ambient Water Quality Standards and Guidance Value (NYSDEC AWQSGV) exceedances for VOCs, SVOCs, and metals is presented on Figure 1.

Descriptive summaries of the OM&M sampling results over the past year are provided below.

Volatile Organic Compounds

- No VOCs were detected above AWQSGVs in site monitoring wells MW-CDM-3, MW-3 and MW-5R2;
- Chlorobenzene levels exceeded their respective AWQSGV in MW-4R and MW-CDM-2, but were consistently below pre-remediation levels; and
- Other than chlorobenzene, the only VOCs above their respective AWQSGVs were ethylbenzene and xylenes detected in MW-4R during the May 2008 sampling round, at concentrations slightly above the standards. The concentrations of both compounds were below the standards during the October 2008 sampling event.

Semivolatile Organic Compounds

- No SVOCs were detected above AWQSGVs in site monitoring wells MW-3, MW-CDM-3, and MW-5R2;
- 1,4-Dichlorobenzene concentrations in groundwater samples from MW-CDM-2 and MW-4R were generally below, or slightly above, the AWQSGV of 5 µg/L. Concentrations in both wells, which ranged from 4.8 µg/L to 7.5 µg/L (both estimated values detected below the laboratory reporting limit), were well below their respective maximum pre-remediation levels; and
- 2-Methylnaphthalene, acenaphthene, fluorene, naphthalene, and phenanthrene concentrations detected in May 2008 were unusually low compared to all other sampling rounds. However, in October 2008, the concentrations of these compounds were again consistent with levels detected during all previous monitoring periods.

Metals

- No dissolved metals were detected in monitoring wells MW-CDM-2, MW-3, MW-4R and MW-5R2;
- Zinc was the only dissolved metal that exceeded its AWQSGV of 5.6 µg/L in 2008. The metal was detected in MW-CDM-3 during both sampling rounds, at concentrations of 93 µg/L and 83 µg/L detected in May and October, respectively; and

- Lead, which was detected at 190 µg/L in MW-5R2 during the 2007 monitoring period, was not detected during either one of the two sampling rounds performed in 2008.

Recommended Maintenance and Corrective Actions

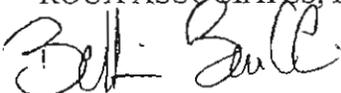
The following is a brief summary of the recommended maintenance and corrective actions for the site:

- The orange safety fencing previously installed around each monitoring well is in disrepair and should be replaced.
- As previously recommended, future re-grading of the site should be conducted to address the ponding that has been observed at two locations in the center of the Site. Currently, since the ponding does not present an environmental health or safety concern at the Site, no short-term corrective action is necessary. Chemical concentrations in monitoring wells downgradient of the ponds (i.e., MW-5R2 and MW-3) have not yet indicated that contaminant leaching is occurring, but will continue to be monitored.

Please call me with any questions regarding this report.

Sincerely,

ROUX ASSOCIATES, INC.

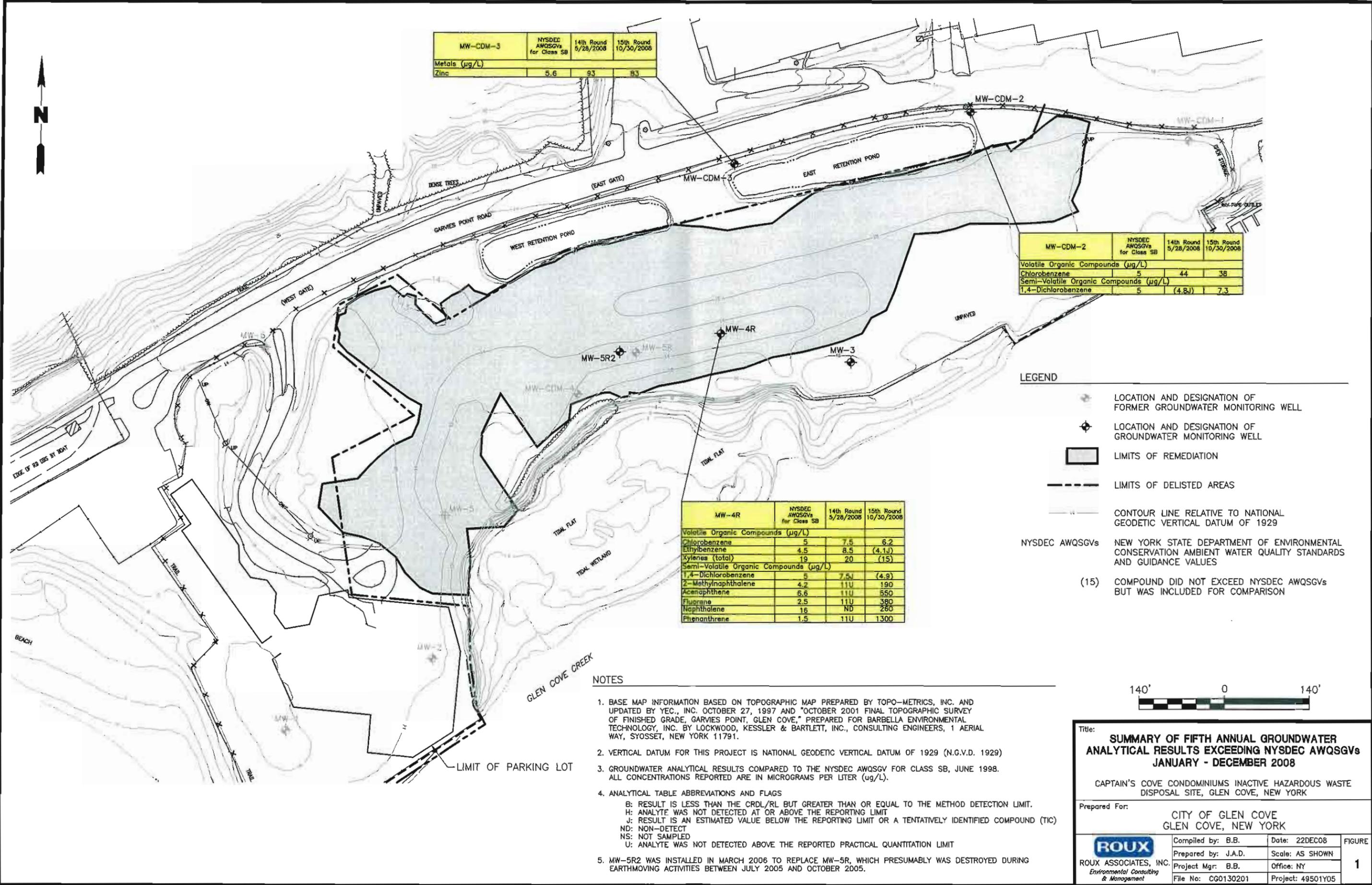


Bettina Ben-Eliezer
Project Hydrogeologist/
Project Manager



Charles J. McGuckin, P.E.
Principal Engineer

cc: Kelly Morris, Executive Director, City of Glen Cove CDA



MW-CDM-3	NYSDEC AWQSGVs for Class SB	14th Round 5/28/2008	15th Round 10/30/2008
Metals (µg/L)			
Zinc	5.6	93	93

MW-CDM-2	NYSDEC AWQSGVs for Class SB	14th Round 5/28/2008	15th Round 10/30/2008
Volatile Organic Compounds (µg/L)			
Chlorobenzene	5	44	38
Semi-Volatile Organic Compounds (µg/L)			
1,4-Dichlorobenzene	5	(4.8)	7.3

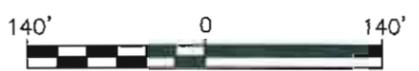
MW-4R	NYSDEC AWQSGVs for Class SB	14th Round 5/28/2008	15th Round 10/30/2008
Volatile Organic Compounds (µg/L)			
Chlorobenzene	5	7.5	6.2
Ethylbenzene	4.5	8.5	(4.1)
Xylenes (total)	19	20	(15)
Semi-Volatile Organic Compounds (µg/L)			
1,4-Dichlorobenzene	5	7.5	(4.9)
2-Methylnaphthalene	4.2	11U	190
Acenaphthene	5.6	11U	550
Fluorane	2.5	11U	380
Naphthalene	16	ND	260
Phenanthrene	1.5	11U	1300

LEGEND

- LOCATION AND DESIGNATION OF FORMER GROUNDWATER MONITORING WELL
- LOCATION AND DESIGNATION OF GROUNDWATER MONITORING WELL
- LIMITS OF REMEDIATION
- LIMITS OF DELISTED AREAS
- CONTOUR LINE RELATIVE TO NATIONAL GEODETIC VERTICAL DATUM OF 1929
- NYSDEC AWQSGVs NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES
- (15) COMPOUND DID NOT EXCEED NYSDEC AWQSGVs BUT WAS INCLUDED FOR COMPARISON

NOTES

- BASE MAP INFORMATION BASED ON TOPOGRAPHIC MAP PREPARED BY TOPO-METRICS, INC. AND UPDATED BY YEC., INC. OCTOBER 27, 1997 AND "OCTOBER 2001 FINAL TOPOGRAPHIC SURVEY OF FINISHED GRADE, GARVIES POINT, GLEN COVE," PREPARED FOR BARBELLA ENVIRONMENTAL TECHNOLOGY, INC. BY LOCKWOOD, KESSLER & BARTLETT, INC., CONSULTING ENGINEERS, 1 AERIAL WAY, SYOSSET, NEW YORK 11791.
- VERTICAL DATUM FOR THIS PROJECT IS NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D. 1929)
- GROUNDWATER ANALYTICAL RESULTS COMPARED TO THE NYSDEC AWQSGV FOR CLASS SB, JUNE 1998. ALL CONCENTRATIONS REPORTED ARE IN MICROGRAMS PER LITER (µg/L).
- ANALYTICAL TABLE ABBREVIATIONS AND FLAGS
 B: RESULT IS LESS THAN THE CRDL/RL BUT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT.
 H: ANALYTE WAS NOT DETECTED AT OR ABOVE THE REPORTING LIMIT
 J: RESULT IS AN ESTIMATED VALUE BELOW THE REPORTING LIMIT OR A TENTATIVELY IDENTIFIED COMPOUND (TIC)
 ND: NON-DETECT
 NS: NOT SAMPLED
 U: ANALYTE WAS NOT DETECTED ABOVE THE REPORTED PRACTICAL QUANTITATION LIMIT
- MW-5R2 WAS INSTALLED IN MARCH 2006 TO REPLACE MW-5R, WHICH PRESUMABLY WAS DESTROYED DURING EARTHMOVING ACTIVITIES BETWEEN JULY 2005 AND OCTOBER 2005.



Title: **SUMMARY OF FIFTH ANNUAL GROUNDWATER ANALYTICAL RESULTS EXCEEDING NYSDEC AWQSGVs JANUARY - DECEMBER 2008**

CAPTAIN'S COVE CONDOMINIUMS INACTIVE HAZARDOUS WASTE DISPOSAL SITE, GLEN COVE, NEW YORK

Prepared For: **CITY OF GLEN COVE, GLEN COVE, NEW YORK**

 ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: B.B.	Date: 22DEC08	FIGURE 1
	Prepared by: J.A.D.	Scale: AS SHOWN	
	Project Mgr: B.B.	Office: NY	
	File No: CG0130201	Project: 49501Y05	