Superfund Proposed Plan for Remedy Modification

Li Tungsten Superfund Site
Glen Cove
Nassau County
New York

EPA Region 2 May 2016

PURPOSE OF THIS DOCUMENT

This Proposed Plan for Remedy Modification ("Proposed Plan") describes the proposed changes to Operable Unit 1 (the Li Tungsten Facility Property) and Operable Unit 2 (portions of the Captain's Cove Property) of the September 1999 Record of Decision (ROD) issued by the Environmental Protection Agency (EPA), with concurrence by the New York State Department of Environmental Conservation (NYSDEC) for the Li Tungsten Superfund Site (Site), located in the City of Glen Cove, Nassau County, New York. In addition to proposing changes to the 1999 ROD, this Proposed Plan will also serve to document EPA's Explanation of Significant Differences (ESD) with respect to its final designation of appropriate uses for two parcels at the Site.

Portions of the Captain's Cove property have been remediated by NYSDEC under its Superfund program. NYSDEC has designated the entire Captain's Cove Property as a State Superfund Site. Additional remedial activities, including monitoring and maintenance, that may be warranted at the Captain's Cove property are being addressed under the New York State Superfund program.

Proposed Plan - In accordance with Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. § 9617(a), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.435(c)(2)(i), if, after the selection of a remedy in a ROD, a component of the remedy is fundamentally altered EPA must propose an amendment to the ROD. EPA's proposed changes must first be made available for public comment in a proposed plan.

The remedy specified in the 1999 ROD required excavation and off-site disposal of soil primarily contaminated with radionuclides and heavy metals. In addition, the selected remedy for groundwater was "no action," other than a long-term monitoring program to assess the recovery of the Upper Glacial Aquifer in the vicinity of the Li Tungsten facility. This monitoring was to be performed after the soil remedy was implemented. The remedial action objectives of the 1999 ROD for soil were to prevent or minimize exposure to contaminants of concern through inhalation, direct contact or ingestion, and to prevent or minimize cross-media impacts from contaminants of concern in soil/sediments to underlying groundwater.

To achieve the remedial action objectives, soil cleanup levels of 24 milligrams/kilogram (mg/kg) for arsenic, 400 mg/kg for lead, and 5 picocuries per gram (pCi/g) for thorium-232 and radium-226 were established. Because of the limited presence of polychlorinated biphenyls (PCBs) at one parcel at the Site (Parcel B), the selected remedy called for the removal of PCB-contaminated soil that exceeded 1 mg/kg in surface soil or 10 mg/kg at depths greater than two feet. The remedy selected in the 1999 ROD also included institutional controls to restrict the future use of the former Li Tungsten facility property and portions of the Captain's Cove

property. Some of these institutional controls were modified in 2005 (see text below regarding the 2005 ESD). The remedial action reports and the preliminary close out report for the Site indicate that the construction of the remedial action for the Site has been completed, although institutional controls selected as part of the remedy have not yet been implemented.

During the implementation of the remedial actions at the Site, EPA determined that excavation of some arsenic-contaminated soil and, to a lesser extent, lead-contaminated soil along the western and eastern edge of Lower Parcel C and the southern portion of Parcel A was infeasible because of the existing utilities and infrastructure. These areas with residual soil contamination, referred to as "red flag" areas, are present within the immediate area of the fence line on the former Li Tungsten property (e.g., along two storm drain systems as well as underground electric and natural gas services) and in close proximity to the bulkhead in place along the Glen Cove Creek.

The "red flag" areas were identified as areas that would need institutional controls to ensure that future development would take residual contamination into account in managing excavations and soil in these areas. The contamination in these "red flag" areas was also found to be at depths below the top two feet, and, therefore, it was determined that receptors were unlikely to be exposed unless digging occurred in these areas. However, recent sampling by the proposed developer of the Site and by EPA indicates that some additional residual soil, in particular in Lower Parcel C and Parcel A of the Li Tungsten facility property, exceed the 1999 ROD cleanup levels. Specifically, the sampling investigation revealed more arsenic, and, to a limited extent, lead contamination outside the "red flag" areas than had been identified on Lower Parcel C and on Parcel A. The sampling also identified petroleum-contaminated soil on Parcel A that is being addressed under the NYSDEC Spills program. The recent sampling investigation did not reveal any contamination in excess of the radiological cleanup levels.

Contamination can migrate from soil into the groundwater. While the groundwater quality has continued to improve subsequent to the implementation of the soil remedy selected in the 1999 ROD, arsenic concentrations detected in groundwater at one area of the Site, beneath Lower Parcel C, still exceed the drinking water standard. The cleanup levels selected in the 1999 ROD for arsenic and lead were based upon the more conservative measure of direct-contact exposure and not on impact to groundwater. For this Proposed Plan, EPA and NYSDEC investigated whether implementing further actions with an alternate "impact-to-groundwater" cleanup level for arsenic and lead was feasible.

After further assessing the cross-media impacts from contaminants of concern in soil/sediments to underlying groundwater, EPA and the NYSDEC developed Site-specific impact-to-groundwater (IGW) cleanup levels (discussed in more detail below) of 175 mg/kg for arsenic and 660 mg/kg for lead that if achieved EPA believes will be protective of groundwater. EPA has determined that the strategy of removing additional contaminated soil above the arsenic and lead IGW soil cleanup levels will further improve the groundwater quality and potentially result in achieving the drinking water standard for arsenic. The City of Glen Cove's plan to restrict the use of the Lower Parcel C property to commercial use and to provide and maintain a cover at the Site of either 2 feet of clean soil with an underlying demarcation layer or above ground structures, such as buildings, pavement, and sidewalks, will further reduce the potential for human exposure to residual remaining contamination.

Accordingly, in this Proposed Plan, EPA is proposing as the preferred remedy the additional excavation and off-site disposal of the identified contaminated soil at the former Li Tungsten facility property above levels that exceed the arsenic and lead IGW soil cleanup levels (with limited exceptions, e.g., for some pockets of contamination near an existing gas line, or below the water table). Under the Proposed Plan, institutional controls would be used to ensure that future Site uses/development activities take residual contamination into account.

ESD - This Proposed Plan also includes an ESD with respect to EPA's final designation of appropriate uses for two parcels at Operable Unit 1 (the Li Tungsten Facility Property) of the Site. In accordance with Section 117(c) of CERCLA and Section 300.435(c)(2)(i) of the NCP, if EPA selects a remedial action and, thereafter, determines that there is a significant, non-fundamental change to that action, it must publish an ESD and indicate the reasons for the change. In this Proposed Plan, EPA announces that the anticipated future land use for Parcel A will be changed from commercial/light industrial to residential with restrictions through institutional controls (such restrictions would not allow single family housing but would accommodate multifamily condominiums and apartment buildings), and the use of Lower Parcel C will revert to commercial/light industrial from residential with restrictions.

EPA has previously issued two ESDs documenting significant changes to the 1999 ROD for the Site. The first was issued in November 2002 and addressed the significant increase in the volume of soil that required excavation and off-site disposal. The second, issued in May 2005, re-evaluated the 1999 ROD's cleanup criteria in order to address the City of Glen Cove's decision to revise the Glen Cove Creek waterfront revitalization plan to include residential future use of the Site. EPA determined that, in order for the remedy to be protective of residential use, the ROD's radiation cleanup levels for radium and thorium needed to be changed. For thorium, the cleanup level was lowered from 5 pCi/g for the thorium-232 isotope to 5pCi/g for the sum of two isotopes, thorium-230 and thorium-232. Similarly, the radium cleanup goal was changed from 5 pCi/g for radium-226 to 5 pCi/g for the sum of radium-226 and radium-228. The ESD also stated that naturally occurring levels of these substances were present, and that these cleanup levels were for exceedances of naturally occurring levels. The arsenic and lead criteria were determined to be sufficiently protective of future residential use with institutional controls and were not revised.

The 2005 ESD described the impact of the changes in the radiation cleanup criteria on areas previously excavated in conformance with the 1999 ROD, as revised by the 2002 ESD. After reviewing post-excavation confirmatory results, EPA was satisfied that the previous excavations had met the new radioactive cleanup criteria, as well as the existing heavy metals criteria, and concluded that, with the exception of Parcel A, the implemented remedy was sufficiently protective of future residential use. In the 2005 ESD, EPA reserved judgment on the residential future use of Parcel A because of the possibility that contaminants other than those included in the ROD's cleanup criteria could pose a threat to future residential populations.

The City of Glen Cove recently made a renewed request to EPA to allow for residential future use, with restrictions, of Parcel A because of a change in future anticipated use in the area, as memorialized in the Garvies Point Mixed-Use Waterfront Development plan. Under this plan, the Glen Cove Industrial Development Agency (IDA) intends to redevelop the Site, to include both commercial and residential future uses. Commercial use (e.g., an on-slab parking garage) is envisioned for Lower Parcel C. The City has revised its zoning code accordingly. This ESD takes into consideration the implemented remedy selected in the 1999 ROD, as revised by the 2002 and 2005 ESDs, as well as additional sampling activity and the recent removal of contamination at Parcel A. EPA has chosen to issue this third ESD as part of this Proposed Plan, to announce the change in land use from commercial/light industrial to residential for Parcel A, as well as to reaffirm that, by reverting the use of Lower Parcel C to its original commercial/light industrial land use from residential, the remedy would still be protective of human health.

This Proposed Plan and associated ESD were developed by EPA in consultation with NYSDEC. EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of CERCLA, 42 U.S.C. § 9617(a), and Section 300.430(f)(2) of the NCP, to inform the public of EPA's preferred changes to the remedy selected in the 1999 ROD and to solicit public comments pertaining to the remedial alternatives evaluated. The preferred alternative is described in this Proposed Plan. Changes to the preferred alternative may be made if public comments or

additional data indicate that such a change will result in a more appropriate remedial action. The final decision regarding the selected amendment to the 1999 ROD will be made after EPA has taken into consideration all public comments. EPA is soliciting public comment on both of the alternatives considered because EPA may select either alternative.

Mark Your Calendar

June 1, 2016 – July 1, 2016: Public comment period on the Proposed Plan.
June 13, 2016 at 7:00 P.M.: Public meeting at the Robert M. Finley Middle School Wunsch Center, 1 Forest Avenue, Glen Cove, NY 11542

COMMUNITY ROLE IN SELECTION PROCESS

EPA relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. Similarly, EPA relies on public input when proposing fundamental changes to a remedy previously selected. To this end, this Proposed Plan and all reports referenced herein have been made available to the public for a public comment period which begins on June 1, 2016 and concludes on July 1, 2016.

Comments received at the public meeting, as well as written comments received during the public comment period, will be documented in a Responsiveness Summary section of the ROD Amendment, the document which formalizes the selection of the remedy.

Written comments on this Proposed Plan should be addressed to:

Lorenzo Thantu
Remedial Project Manager
Eastern New York Remediation Section
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, New York 10007-1866
Telefax: (212) 637-3966
Email: thantu.lorenzo@epa.gov

SITE REPOSITORIES

Copies of the Proposed Plan and supporting documentation are available at the following information repositories and at https://www.epa.gov/superfund/li-tungsten:

Glen Cove Public Library
Reference Section
4 Glen Cove Avenue
Glen Cove, New York 11542
(516) 676-2130
Hours: Monday - Thursday, 9:00 am-9:00 pm
Friday - Saturday, 9:00 am-5:00 pm
Sunday, 1:00 pm-5:00 pm

And

United States Environmental Protection Agency
Superfund Records Center
290 Broadway, 18th Floor
New York, New York 10007-1866
By Appointment: (212) 637-4308
Hours: Monday - Friday, 9:00 am - 5:00 pm

SCOPE AND ROLE OF ACTION

Site remediation activities are sometimes segregated into different phases, or operable units (OUs), so that remediation of different environmental media or areas of a site can proceed separately, resulting in an expeditious remediation of the entire site. EPA has designated four operable units for the Li Tungsten Site as follows:

Operable Unit 1 (OU 1) - the Li Tungsten Facility Property
Operable Unit 2 (OU 2) – portions of the Captain's Cove Property
Operable Unit 3 (OU 3) – Building Contamination
Operable Unit 4 (OU 4) – Glen Cove Creek

The primary objective of this Proposed Plan is to present an amendment to the 1999 ROD for the Site. The 1999 ROD addressed contaminated soil and groundwater for OU 1 and for areas impacted by radiological contamination as well as arsenic and lead from the Li Tungsten facility at OU2. The amendment presented in this Proposed Plan addresses only the OU 1 soil remedy of the 1999 ROD, specifically, contamination left behind in

some of the "red flag" areas and recently-identified metals-contaminated soil. The implementation of the 1999 selected remedy for OU 2 adequately addressed the radiological contamination at Captain's Cove. An institutional control in the form of an environmental easement is anticipated to be conveyed to NYSDEC which will contain various restrictions on both the former Li Tungsten property and those portions of the Captain's Cove property where EPA required work to be performed.

There were two other OUs, OU 3 and OU 4, identified for the Site, which are not changed by this amendment. OU3 was intended to address radioactive contamination in buildings. A ROD was not selected for OU3 because, in 1998, EPA decided to address the radioactive contamination in buildings as part of an EPA removal action. OU4, the Glen Cove Creek, was addressed by a 2005 ROD for the Site. The remedy selected in the 2005 ROD, which involved remedial dredging and removal of radioactive hot spots in the Creek, has been completed. **Figure 1** shows OU 1, OU 2, and OU 4.

SITE BACKGROUND

Site Description and History

The Site is located in the City of Glen Cove, Nassau County, New York (**Figure 2**). It consists of the former Li Tungsten facility property primarily contaminated with metals-contaminated and, to lesser degree, radiologically contaminated materials, the radiologically contaminated portions of the Captain's Cove property, and nearby areas where radiologically contaminated materials associated with the former Li Tungsten facility came to be located, including portions of Glen Cove Creek.

The Captain's Cove Property is located west of the Li Tungsten Property on Garvies Point Road, and both are located on the north shore of Glen Cove Creek.

The processing of tungsten and other metals began at the Li Tungsten facility in 1942 and ended in 1985. Operations consisted mainly of processing tungsten ore concentrates and scrap metal containing tungsten into ammonium paratungstate, and formulating ammonium paratungstate into tungsten powder and tungsten carbide powder. The Captain's Cove property was formerly used as a general dump site for various users for the disposal of incinerator ash, sewage sludge, rubbish, household debris, dredged sediment from Glen Cove Creek, and industrial wastes, including wastes from the Li Tungsten facility, from the 1950s to the late 1970s. The property was purchased in 1983 for development as a residential condominium project. Development efforts were abandoned in the mid-1980s when the NYSDEC designated the Captain's Cove property as a State Superfund site.

In October 1992, the Site was placed on the National Priorities List, which is a list of releases promulgated under Section 105 of CERCLA, 42 U.S.C. § 9605. In 1993, EPA initiated a Remedial Investigation and Feasibility Study (RI/FS) to define the nature and extent of contamination on Parcels A, B and C of the former Li Tungsten facility property (OU 1). Later, in 1995, EPA expanded the Site definition to include the two radiologically contaminated waste areas A and G at the Captain's Cove property (OU 2). It should be noted that areas A and G comprised a small portion of the Captain's Cove property, which is a New York State Superfund Site. EPA's RI/FS of the former Li Tungsten facility property and portions of the Captain's Cove property revealed that many contaminants were left behind on the properties as a result of prior Site practices. These contaminants posed a risk to human health and the environment. The primary contaminant categories of concern at the Site were determined to be radionuclides and heavy metals associated with spent ore residuals/slag.

The Glen Cove Creek area has been industrialized since the mid-1800s. The immediate area now includes light industry, commercial businesses, a sewage treatment plant, a County public works facility, and State and federally designated hazardous waste sites and Brownfield properties. Other land uses in the vicinity of the Glen Cove Creek area include marinas, yacht clubs, beaches, and the Garvies Point Preserve. There are residences within 100 feet of the Li Tungsten property, along Janet Lane and The Place, and

within 1,000 feet of the Captain's Cove property, on McLoughlin Street.

The City of Glen Cove, which has been designated as an EPA Brownfields Showcase Community, has been working to implement its 1998 Glen Cove Creek Revitalization Plan involving more than 200 acres surrounding the Creek. The Revitalization Plan projected the future use of the area as commercial redevelopment, featuring shops, restaurants, parking facilities, museums, and a hotel/conference center. The Glen Cove IDA has entered into an agreement to purchase most of the Site with the Site's proposed developer, RXR Glen Isle Partners, LLC (RXRGIP), and the IDA has revised the Revitalization Plan to include residential development. The City requested that EPA assess whether Site conditions were protective for residential development, with restrictions, of portions of the Li Tungsten Site, including Parcel A, Parcel B, and the Captain's Cove properties, because of the IDA and the City's desire to modify the anticipated future use of portions of the Site.

Site Geology/Hydrogeology

There are two discrete aquifers in the Glen Cove region - the Upper Glacial and the Lloyd Aquifers. In 1978, the aquifer system underlying Nassau and Suffolk Counties was designated a sole source aquifer by EPA in order to safeguard the capability of these aquifers to provide potable drinking water.

The Upper Glacial Aquifer, which is not a source of potable water in the vicinity of the Site, consists of permeable deposits that occur below the water table. The water table at the Site occurs from mean sea level (MSL) to approximately 60 feet above MSL. Recharge is entirely from precipitation, occurring mostly during the late fall and winter when plant growth is dormant. Regionally, shallow groundwater discharges to streams, springs, and the Long Island Sound and its harbors. No connection or discharge from the Upper Glacial Aquifer to the deeper Lloyd Aquifer exists in the Site area. Groundwater movement in the Upper Glacial Aquifer is generally to the south, with shallow discharge to Glen Cove Creek.

The clay member of the Raritan Formation is a confining, or relatively impermeable, unit that overlies the Lloyd Aquifer. The Port Washington unit occurs above, and is contiguous with, the clay member in many places. Together, these units form an effective confining unit separating the Lloyd Aquifer from the Upper Glacial Aquifer in the Glen Cove region. Glen Cove's municipal water supply system taps the deeper Lloyd Aquifer in excess of 250 feet below MSL.

1999 Selected Remedy

As mentioned above, based on the results of the RI/FS, EPA issued a ROD in 1999 in which it selected a remedy for OU 1 (Parcels A, B and C of the former Li Tungsten facility property) and OU 2 (Areas A and G at the Captain's Cove property) for the Site (see **Figure 3**). The selected remedy primarily consists of excavation of soil and sediment contaminated above cleanup levels, segregation of radionuclide-contaminated soil and non-radionuclide soil contaminated with heavy metals, and off-site disposal of all contaminated soil at appropriately licensed facilities. The cleanup levels specified in the 1999 OU 1 ROD were as follows:

Parameter (In Soil)	1999 ROD Cleanup Levels
Arsenic	24 mg/kg
Lead	400 mg/kg
PCBs	1 mg/kg in Surface Soil (0 – 2 feet below ground surface) or 10 mg/kg at Depths Greater than Two Feet
Thorium-232	5 pCi/g[1]
Radium-226	5 pCi/g[1]

[1] The cleanup levels originally developed in the 1999 ROD do not include the naturally occurring background radiation of each radionuclide, i.e., approximately 1 picocuries per gram (pCi/g). As described above, the May 2005 ESD revised radiation cleanup levels for radium and thorium in order for the 1999 remedy to be protective of restricted residential use. For thorium, the cleanup level was lowered from 5 pCi/g for the thorium-232 isotope to 5pCi/g for the sum of two isotopes, thorium-230 and thorium-232. Similarly, the radium cleanup goal was changed from 5 pCi/g for radium-226 to 5 pCi/g for the sum of radium-226 and radium-228.

The selected remedy for groundwater was no action, other than a long-term monitoring program to assess the recovery of the Upper Glacial Aquifer after the soil remedy was implemented.

Remedial activities for OU 1 and OU 2 (as well as the OU 4 remedy, which has been implemented consistent with the requirements set forth in the 2005 ROD) were determined to be complete in their respective remedial action reports, although the implementation of all necessary institutional controls required in the Site remedies have not yet been put in place.

Implementation of the 1999 Selected Remedy

OU 1 - Former Li Tungsten Facility: Soil with contaminant levels that exceeded cleanup standards was excavated on Parcel A and Lower Parcel C by EPA. A total of 528 cubic yards (cy) of soil exceeding radiation criteria were excavated and staged in the Dickson Warehouse for future off-site disposal. In addition, 2,295 tons of nonradioactive soil exceeding heavy metals criteria was excavated and disposed of off Site at a licensed Resource Conservation and Recovery Act (RCRA) Subtitle D facility. As noted above, some areas of soil contaminated with arsenic (or, less frequently, lead) above cleanup levels ("red flag" areas) were left in place because of their proximity to storm drain systems and underground electric and/or natural gas services. In addition, some arsenic and, to a lesser degree, lead contamination present in saturated soil below the water table was not targeted for excavation. These "red flag" areas were identified as areas that would need institutional controls to ensure that future development would take residual contamination into account in managing excavations and soil in these areas.

In the spring of 2004, a potentially responsible party, TDY Industries, Inc. (TDY), emptied the contents of the Dickson Warehouse by properly disposing of 5,180 tons of radiologically contaminated waste materials staged inside. TDY also excavated and disposed of 3,530 tons of contaminated soil from upper Parcel C. In addition, EPA razed all buildings on Parcel A, with the exception of the Loung building, which EPA determined to be structurally stable and uncontaminated. EPA also performed storm sewer and sump clean-out, and closed the industrial well on Parcel A.

TDY re-mobilized to the Site in June 2006 to complete the remedial work for OU 1. The prior excavated nonradioactive, heavy metals-contaminated soil was properly disposed of. Other contaminated waste streams, i.e., radiologically contaminated soil, soil considered hazardous under the RCRA, and PCB-contaminated soil, was staged in the Dickson Warehouse on Parcel C for specialized handling and disposal. TDY completed all excavation work in July 2007. TDY then re-mobilized to the Site in November 2007, to perform additional work including proper disposal of the stockpiled radiologically contaminated, RCRA-hazardous, and PCB-contaminated soil staged in the Dickson Warehouse, as well as decontamination of the warehouse itself. The decontamination of the Dickson Warehouse was completed in July 2008.

All buildings on the former Li Tungsten facility property have since been demolished, including the former Dickson Warehouse and Benbow Building on Parcel C and the former Loung Building on Parcel A. In addition, subsurface petroleum fuel tanks and associated petroleum-contaminated soil, which were found on Parcel A during the developer's subsurface investigation, have been removed under the NYSDEC Spills program.

OU 2 – Captain's Cove: An estimated 112,000 tons of soil with exceedances above the cleanup levels was excavated, segregated, and staged by EPA between 2001 and 2003. EPA segregated waste soil on Site into stockpiles of radiologically contaminated and non-radiologically contaminated soil, as well as a concrete and wood debris. On behalf of the EPA, the U.S. Army Corps of Engineers (USACE) then mobilized to Captain's Cove to commence stockpile load-out, transportation, and disposal activities in February 2005. The work was completed in 2006.

The selected remedy for Captain's Cove called for excavation, volume reduction, and off-site disposal of all radiologically contaminated /chemical wastes, consistent with the cleanup levels developed for the Site. Post-excavation sampling of the Captain's

Cove portion of the Site showed that the remedial action had attained original cleanup levels identified in the 1999 ROD and had also met the ESD-modified radionuclide criteria.

OU 1 and OU 2 – Groundwater: Sampling of groundwater during the remedial investigation indicated that radionuclides were generally at or below EPA and State maximum contaminant levels (MCLs), although several monitoring wells did reveal groundwater concentrations above MCLs for some metals (arsenic and lead). Alternatives for remediating the groundwater at the Li Tungsten facility were considered and a no action remedy with monitoring was selected in the 1999 ROD, based on the expectation that the attainment of EPA and State MCLs would result from the soil cleanup considering the sporadic and generally low-level nature of the inorganic soil contamination. While metals contamination was detected in groundwater at Captain's Cove during the RI, alternatives for remediation of groundwater at Captain's Cove were not developed because radionuclides were present at or below MCLs. The long-term groundwater monitoring program includes monitoring wells at Captain's Cove.

Groundwater monitoring in accordance with the ROD was initiated by TDY Industries, Inc. subsequent to the Court's entry of the 2007 Consent Judgment. As expected, the groundwater sampling data has indicated that, for the most part, metals concentrations in groundwater at the Li Tungsten facility have decreased significantly with the implementation of the soil remedial actions required by the 1999 ROD. Prior to the 1999 ROD, during the RI study, arsenic was detected at 14,500 micrograms per liter (µg/L) in 1996 at a monitoring well on Lower Parcel C. The Post-ROD groundwater monitoring network consists of five wells that were sampled quarterly from September 2008 to June 2009 and annually from 2010 to 2013. Samples were analyzed at a laboratory for metals (including contaminants of concern arsenic and lead), as well as Radium 226 and Thorium 232. Three of these wells are located on the Li Tungsten facility property; the other two are located on Captain's Cove. Two rounds of samples of the five wells were also collected by the EPA in January 2015 and February 2016. All monitoring results reveal that radionuclides remain below MCLs. Well EMW-4 (22 feet deep) is located on Lower Parcel C. Arsenic concentrations above MCLs have varied during the monitoring period, ranging between 54 micrograms per liter (µg/L) (2008), to 510 µg/L (2013), to 85 µg/L (2016). Lead concentrations were also detected and ranged between 10.8 to 1.7 µg/L; however, all lead values are below the EPA Action Level of 15 µg/L. For the remaining two wells on the Li Tungsten facility property, well MP-6 on Parcel A and well PRA-7 on Parcel B, arsenic and lead concentrations have declined to either non-detect or below their respective MCLs and EPA Action Level.

OU 4 - Glen Cove Creek: On behalf of the EPA, USACE initiated on-site response activities in October 2006. Sediment from the Creek was dredged and dewatered on-site. In August 2007, work began to segregate radionuclide slag from the dewatered sediment. The segregation work typically involved spreading and radiologically scanning a "lift" of material spread out in a layer approximately 6 inches thick. Radiologically contaminated materials were removed from the sediment and stockpiled for off-site disposal. The final volume of scanned sediment was 31,374 cy. The slag was properly disposed of.

EPA re-mobilized to the Site in October 2007 to complete dredging of two isolated hot spots, designated 1 and 2, against the bulkhead on Parcel A, using a long-reach excavator from land to try to minimize the possibility of bulkhead collapse. After dredging, EPA rebuilt part of the bulkhead along Parcel A that had collapsed earlier. EPA completed this work in July 2008.

The Creek's navigational channel has been effectively cleared of radionuclides that could otherwise impact future navigational dredging operations. There is the potential that radiologically contaminated slag could still be present below the navigational dredging depth in the Creek channel. In addition, it is possible that radiologically contaminated slag may be present underwater in the sideslope of the Creek channel along the Parcel A bulkhead. Therefore, these areas have been identified as areas requiring restrictions on future activity through the use of institutional controls.

ADDITIONAL SOIL SAMPLING, IMPACT-TO-GROUNDWATER ASSESSMENT, AND ACTIONS BY OTHER PARTIES

The selected remedy for OU 1 and OU 2 in the 1999 ROD called for, among other actions, excavation of soil and sediment contaminated above cleanup levels, followed by replacement with clean backfill. During the various remedial activities, some areas were identified where arsenic and, to a lesser degree, lead were left in place in what were classified as "red flag" areas because the feasibility of addressing those soil in those locations was limited. Additional investigations were subsequently performed on Li Tungsten Parcels A and B and Lower Parcel C by the proposed developer, RXRGIP. These investigations identified soil contamination on Parcel A and Lower Parcel C in areas outside of those previously identified as "red flag" areas.

Future direct-contact exposure to the above-named areas can be managed through engineering and institutional controls, and EPA plans to manage some inaccessible material in place; however, to satisfy a remedial action objective of the 1999 ROD, EPA and NYSDEC have also reevaluated the cross media impacts of Site soil to groundwater. Based upon groundwater monitoring performed to date, actions to address soil has led to achieving MCLs in most of the Upper Glacial Aquifer, as anticipated in the 1999 ROD, except as noted above. The cleanup levels selected in the 1999 ROD for arsenic and lead were based upon the more conservative measure of direct-contact exposure and not on impact to groundwater. For this Proposed Plan, EPA and NYSDEC investigated whether implementing further actions with an alternate "impact-to-groundwater" cleanup level for arsenic and lead was feasible, as discussed below.

EPA and the NYSDEC decided to assess the potential for cross media impacts of Site soil to groundwater utilizing a test method called the Synthetic Precipitation Leaching Procedure (SPLP). The SPLP test exposes soil to a liquid simulating environmental precipitation and measures the amount of a contaminant that migrates through the soil with the liquid as it passes through the media. Site soil contaminated with arsenic and lead were subjected to the SPLP method. The SPLP test results, and EPA, NYSDEC, and New Jersey Department of Environmental Protection guidance on development of site-specific, impact-to-groundwater cleanup criteria were reviewed. Specific characteristics of the Site and the Site-specific SPLP testing led EPA to conclude that Site soil that contained less than 175 mg/kg of arsenic and 660 mg/kg of lead would not have a significant impact on groundwater.

To better define the extent of residual contamination on Lower Parcel C, EPA performed additional soil sampling in August 2015 and May 2016. EPA assessed the results of the Lower Parcel C sampling event as well as all the recent data to determine how best to address the residual contamination.

The Lower Parcel C soil sampling results revealed seven locations where arsenic and lead contamination in soil exceeded the aforementioned levels of 175 mg/kg and/or 660 mg/kg, respectively. The most significant contamination was found in the "red flag" areas, thus some of these elevated concentrations may still be subject to the same limitations that curtailed the earlier remedial action. An estimated 8,500 cy of contaminated soil exceeding the 175 mg/kg level for arsenic and 660 mg/kg level for lead, is expected to be accessible and feasible for excavation and disposal off-site.

RXRGIP, the proposed developer of the Site, has initiated several investigatory actions voluntarily in anticipation of acquiring portions of the Site. As part of the Garvies Point Mixed-Use Waterfront Development plan, RXRGIP intends to implement a pre-closing response action that will result in the removal and off-site disposal of identified soil contamination that exceeds levels of 175 mg/kg for arsenic and 660 mg/kg for lead on Parcel A, with the exception of one area that is anticipated to be addressed if the current plans for the development of a marina, which is another component to the Development plan, are implemented. RXRGIP will also remove a small area of PCB-contaminated soil that had become exposed on Parcel B. Should the marina not be developed, institutional and engineering controls would be implemented to

ensure protection of human health and the environment.

Principal Threat Waste: The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for migration of contamination to groundwater, surface water, or air, or acts as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. The decision of if or how to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. This analysis provides a basis for making a statutory finding that the remedy employ treatment as a principal element.

As a potential ongoing source of groundwater contamination, the arsenic- or lead-contaminated soil exceeding the aforementioned IGW criteria would each be considered a principal threat waste. Evaluation of treatment of metals-contaminated soil was considered as part of the original RI/FS that led to the 1999 ROD, using the slightly more conservative direct-contact cleanup levels as the point of departure for treatment. Treatment of metals-contaminated soil (as opposed to excavation and off-site disposal) was considered but not selected in 1999, and no further evaluation of treatment was deemed appropriate for the relatively small action under consideration here[2].

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as applicable or relevant and appropriate requirements (ARARs), site-specific, risk-based levels, and the most reasonably anticipated future land use for a site.

This proposed amendment does not change the RAOs identified in the 1999 ROD. As such, RAOs for this proposed remedy modification are as follows:

- Prevent or minimize exposure to contaminants of concern through inhalation, direct contact or ingestion.

- Prevent or minimize cross-media impacts from contaminants of concern in soil/sediments to underlying groundwater.

The arsenic and lead cleanup levels for direct-contact exposure have not changed since the 1999 ROD, though the expected land use has changed several times, and is changing again under the most recent development plans, as discussed in the "Description of Significant Differences and the Reasons for those Differences" section of this document (see page 15).

This Proposed Plan identifies new IGW cleanup levels of 175 mg/kg for arsenic and 660 mg/kg for lead, to address remaining soil at the Site that is contaminated with arsenic and lead and may pose an ongoing threat to groundwater.

The Upper Glacial Aquifer is not currently being used. EPA expects to continue to assure the protectiveness of the 1999 remedy as it pertains to groundwater by assuring that the aquifer is not used for drinking water until MCLs are achieved. In support of this approach, EPA expects to continue to rely on the existing Nassau County Public Health Ordinance Article 4, which prohibits the installation of new private potable water systems in areas served by a public water supply, and it effectively preclude any future potable water well installations. The City currently provides potable water to the affected area. Furthermore, EPA notes that there is evidence of saltwater intrusion on the Upper Glacial

[2] The physical segregation of radiologically contaminated slag, performed consistent with the 1999 ROD as described in this document, is considered treatment and satisfies CERCLA's preference for remedies that include treatment as a principal element.

Aquifer, which limits the suitability of the aquifer as a potable water resource.

SUMMARY OF REMEDIAL ALTERNATIVES

Section 121(b)(i) of CERCLA, 42 U.S.C. § 9621(b)(1), requires that each selected site remedy be protective of human health and the environment, be cost effective, comply with ARARs, and utilize permanent solutions, alternative treatment technologies, and resource recovery alternatives to the maximum extent practicable. In addition, CERCLA includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

EPA has developed this Proposed Plan to evaluate the following two soil remedial alternatives for the former Li Tungsten facility property portion of the Site: (1) No Further Action, and (2) Additional Excavation and Off-Site Disposal of Metals-Contaminated Soil.

The alternatives for addressing remaining soil contamination on Parcel A and Lower Parcel C of the former Li Tungsten facility property are provided below and are identified as LS-1 and LS-2. The components of the original Alternative, the implemented soil remedy selected in the 1999 ROD, resulted in the cleanup of soil exceeding concentrations of 24 mg/kg for arsenic and 400 mg/kg for lead in soil and subsurface soil except in red flag areas. Alternative LS-1 in this Proposed Plan, which was developed based upon existing Site circumstances, does not require any additional active remediation of residual soil above the arsenic and lead cleanup numbers. LS-2 does require additional active remediation of the residual contamination. However, it differs from the remedy selected in the 1999 ROD in that it uses two distinct cleanup numbers for the nonradiological metals of concern: one cleanup number to protect against exposures to contamination in surface soil and a second cleanup number to address cross-media impacts from subsurface soil to groundwater. LS-2 utilizes the same cleanup levels of 24 mg/kg arsenic and 400 mg/kg for lead to protect against exposure to contaminants in surface soil (0 – 2 feet below ground surface), but in addition utilizes a second set of Site-specific numbers of 175 mg/kg for arsenic and 660 mg/kg for lead in subsurface soil to minimize cross-media impacts from these contaminants in subsurface soil to groundwater. In addition, as stated above, the City of Glen Cove's plan to provide and maintain a cover at the Site of either 2 feet of clean soil with an underlying demarcation layer or structures, such as buildings, pavement, and sidewalks, will further reduce the potential for human exposure to residual remaining contamination.

It should be noted that the selected groundwater remedy in the 1999 ROD was no action other than a long-term groundwater monitoring to assess the recovery of the Upper Glacial Aquifer at the Li Tungsten facility, and it remains unchanged.

Alternative LS-1: No Further Action

Capital Cost	$0
Annual Operation and Maintenance (O&M) Cost:	Not Applicable
Present Worth Cost	Not Applicable
Construction Time	Not Applicable

The No Further Action Alternative would not include any additional measures to address residual soil contamination that currently acts as an ongoing source to groundwater. It would rely on natural processes of dispersion to continue to lower groundwater concentrations to below MCLs.

Institutional controls can be relied upon to ensure that future development will not result in unacceptable direct-contact exposures to metals-contaminated soil. Specifically, institutional controls would consist of an environmental easement that would memorialize restrictions associated with residential land use with restrictions for areas other than Lower Parcel C, which would be restricted to commercial/light industrial use (see ESD section below), groundwater use controls (i.e., restriction of the use of the Upper Glacial Aquifer as a source of water), compliance with an approved

Site Management Plan (SMP), and periodic certifications.

Plans to develop the Site include the placement of either a minimum of 2 feet of clean soil cover with an underlying demarcation layer, or the placement of structures (i.e., buildings, pavement, and sidewalks), over the entire Site property. The SMP would require the maintenance of this cover.

Other aspects of the 1999 ROD would remain unchanged and in place, such as ongoing monitoring of groundwater until MCLs are reached. Because this alternative would result in contaminants remaining on Site above health-based levels, CERCLA would require that the Site be reviewed every five years.

Alternative LS-2: Excavation and Off-Site Disposal of Metals-Contaminated Soil

Capital Cost	$2,500,000
Annual O&M Cost:	$32,000
Present Worth Cost	$3,200,000
Construction Time	4 Months

Under this alternative, Site soil exceeding the 175 mg/kg arsenic and 660 mg/kg lead IGW cleanup levels would be excavated and disposed of off Site at appropriately licensed disposal facilities. It is estimated that 8,500 cy would be removed, all from Lower Parcel C. The City of Glen Cove's plan to provide and maintain a cover at the Site of either 2 feet of clean soil with an underlying demarcation layer or structures, such as buildings, pavement, and sidewalks, will also further reduce the potential for human exposure to residual remaining contamination. In addition, the potential for soil vapor intrusion into buildings constructed on- Site in the future will be evaluated, including evaluating the need to perform actions recommended to address exposures related to soil vapor intrusion.

The engineering and institutional controls described under Alternative LS-1 would also be implemented to ensure that future development for residential land use with restrictions for areas other than Lower Parcel C, which would be restricted to commercial/light industrial use (see ESD section below), take residual contamination into account in managing excavations and soil in these areas. Groundwater monitoring would continue until MCLs are achieved, consistent with the 1999 ROD.

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

EVALUATION OF ALTERNATIVES

In selecting a remedy for a site, EPA considers the factors set forth in CERCLA §121, 42 U.S.C. §9621, by conducting a detailed analysis of the viable remedial alternatives pursuant to the NCP, 40 C.F.R. §300.430(e)(9), and OSWER Directive 9355.3-01. The detailed analysis consists of an assessment of the individual alternatives against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each alternative against those criteria.

- Overall protection of human health and the environment addresses whether a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
- Compliance with applicable or relevant and appropriate requirements addresses whether a remedy would meet all of the applicable or relevant and appropriate requirements of federal and state environmental statutes and regulations or provide grounds for invoking a waiver.
- Long-Term effectiveness and permanence refer to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

- Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies, with respect to these parameters, a remedy may employ.
- Short-Term effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.
- Cost includes estimated capital and operation and maintenance (O&M) costs, and net present-worth costs.
- State acceptance indicates whether, based on its review of the proposed plan, the State concurs with, opposes, or has no comment on the preferred remedy at the present time.
- Community acceptance will be assessed in the ROD Amendment, and refers to the public's general response to the alternatives described in the Proposed Plan.

Comparative Analysis of Alternatives

Overall Protection of Human Health and the Environment

Alternative LS-1, the No Further Action Alternative, would rely solely on previously selected and required institutional and engineering controls to ensure protection of human health and the environment by requiring that future development take residual contamination into account in managing excavations and soil in these areas. Since additional contaminated soil would not be removed, there would be no further measures to mitigate cross media impacts to groundwater and additional improvement to the aquifer. Alternative LS-1 depends instead on the past remedial actions, and time, to eventually meet MCLs throughout the aquifer.

Alternative LS-2 would be equally protective as LS-1 with regard to direct-contact hazards associated with surface soil. It would also address contaminated soil in parts of the Site, with the effect of shortening the time until MCLs are reached. Both LS-1 and LS-2 rely on institutional controls for protectiveness until MCLs are reached.

Compliance with ARARs

Alternative LS-2 would have to comply with land disposal restrictions (LDR - 40 CFR Part 268) for the proper off-site disposal of any excavated wastes contaminated with certain heavy metals above LDR levels.

Alternative LS-1 would not expedite the improvement of arsenic concentrations in groundwater as it does not remove additional arsenic-contaminated soil that will continue to impact the groundwater for longer periods of time. Alternative LS-2 would utilize New York State's Air Guide-1 to ensure that there are no adverse air/particulate impacts to the surrounding community as a result of excavation and handling of contaminated soil. The removal of additional arsenic-contaminated soil that is impacting groundwater under Alternative LS-2 is expected to improve groundwater quality with respect to arsenic and would likely allow for the achievement of the drinking water standard for arsenic.

Long-Term Effectiveness and Permanence

Both Alternatives LS-1 and LS-2 would rely on the independently required implementation of institutional and engineering controls to ensure that future development does not expose users to unreasonable risk and takes residual contamination into account in managing excavations and soil in these areas.

While Alternative LS-1 would not include any additional physical remedial measures to address the soil contamination at the Site, Alternative LS-2 would result in a significant amount of metals-contaminated soil at the Site being permanently removed from the Site through excavation and disposal off Site at appropriately licensed disposal facilities.

Reduction in Toxicity, Mobility or Volume through Treatment

Alternative LS-1 would not provide any additional reduction of the toxicity, mobility, or volume of contaminants present at the Site. Alternative LS-2 would further reduce the toxicity, mobility, and volume of contaminants at the Site through excavation and off-site disposal of the identified metals-contaminated wastes exceeding the cleanup criteria. As discussed earlier, evaluation of treatment as opposed to excavation and disposal was not deemed worthwhile for addressing the conditions which remain at the Site.

Short-Term Effectiveness

The No Further Action Alternative LS-1 would not result in any adverse short-term impacts. Potential short-term Impacts would be associated with Alternative LS-2 because of the direct contact with soil by workers and through the potential for generation of dust during construction. Such impacts would be minimized through worker health and safety protective measures and dust suppression techniques such as covering waste piles and water spraying during dust generating activities. The vehicle traffic associated with Alternative LS-2 could result in temporary, short term impacts to the local roadway system and nearby residents through increased noise level and traffic. Proper protective equipment, air monitoring during construction, and soil handling procedures would minimize the short-term risks to workers and the surrounding community.

As discussed earlier, contaminant levels in groundwater decreased significantly after earlier soil remedial actions were performed. More recently, contaminant levels in several monitoring wells still exceed MCLs, and while the concentrations are relatively low, contaminant levels have been persistently elevated. It is unclear when, if ever, MCLs would be achieved under Alternative LS-1, because contaminated soil at concentrations likely to cause a persistent groundwater problem would be left in place. By contrast, Alternative LS-2 would remove additional soil contamination and is likely to shorten the time frame until MCLs are reached. Because of the relatively low and sporadic concentrations remaining in groundwater, it is difficult to estimate the time frames needed before MCLs are reached. Alternative LS-1 may take several decades to reach MCLs in all monitoring wells, if MCLs are reached at all. Alternative LS-2 would be expected to achieve MCLs much more quickly, plausibly on the order of 10 years.

Implementability

Alternative LS-1 can be readily implemented, as it would not include any additional physical remedial measures to address the remaining soil contamination at the Site.

Alternative LS-2 would be easily implementable because it uses conventional excavation and disposal technologies with proven reliability. Note that the remaining areas contaminated in excess of the IGW cleanup levels are mostly in the “red flag” areas, directly adjacent to storm sewer systems, underground electric and natural gas services, and/or below the water table. Some of the limitations that curtailed earlier remedial actions near utilities are expected to also be a limiting factor for Alternative LS-2. Under Alternative LS-2, excavations would be expected to approach but in no way compromise existing utilities or infrastructure.

Cost

The estimated capital, annual O&M (including monitoring), and present-worth costs for the two alternatives are presented in the following Cost Comparison Table.

Cost Comparison Table		
Alternative	LS-1	LS-2
Capital Cost	$0	$2,500,000
Annual O&M Costs	Not Applicable	$32,000
Present Worth Cost	Not Applicable	$3,200,000

State Acceptance

NYSDEC concurs with the preferred remedy.

Community Acceptance

Community acceptance of the preferred remedy will be assessed following review of the public comments received on the Proposed Plan.

PREFERRED ALTERNATIVE

Based upon an evaluation of the Alternatives LS-1 and LS-2, EPA and NYSDEC recommend **Alternative LS-2: Excavation and Off-Site Disposal of Metals-Contaminated Soil** for the contaminated soil at the former Li Tungsten facility. The preferred alternative would require excavation and off-site disposal of metals-contaminated soil that exceeds 175 mg/kg arsenic and 660 mg/kg lead IGW cleanup levels, with the exception of certain areas that are adjacent to storm sewer systems and underground electric and natural gas services, and/or below the water table. Approximately 8,500 cy of metals-contaminated soil are estimated to be present on Lower Parcel C that require removal. Post-excavation sampling would be required to ensure that soil cleanup levels have been met prior to backfilling the excavation areas. Excavated soil that neither exceed cleanup levels nor contain debris could be used as backfill. In addition, a minimum of two feet of clean fill would then be used to complete the backfilling to match the surrounding grade. As noted above, at least 2 feet of clean soil cover with an underlying demarcation layer, or structures such as buildings, pavement, and sidewalks, will be placed over the entire Site property as part of the development.

The preferred alternative would also rely upon the previously required implementation of institutional and engineering controls; these controls will also include evaluation of and implementation of mitigative actions to address soil vapor intrusion in future buildings developed on Site, to ensure that future development take residual contamination into account in managing excavations and soil in these areas.

Five-year reviews of the Site will continue to be required under the law to ensure the protectiveness of the remedy.

This amendment addresses only the OU 1 portion of the 1999 ROD, and specifically the cleanup levels established for subsurface soil contaminated with arsenic and lead. Direct-contact cleanup levels for arsenic and lead are unchanged. Likewise, cleanup levels for PCBs and radionuclides remain unchanged from those identified in the 1999 ROD, as modified in the 2005 ESD.

OU 2 areas identified for remediation comprised a portion of the Captain's Cove property. The implementation of the 1999 selected remedy for OU 2 adequately addressed the radiological contamination at Captain's Cove. EPA's remedial efforts for the radiological contamination at Captain's Cove are complete. As described above, the residual arsenic and lead contamination that was subsequently discovered in soil in the OU 2 portion of the Captain's Cove property will be addressed by the NYSDEC under its Superfund program. The selected groundwater remedy for the 1999 ROD, which is no action other than a long-term groundwater monitoring to assess the recovery of the Upper Glacial Aquifer at the Li Tungsten facility, remains unchanged.

The preferred alternative would result in an effective long- term, permanent remedy because metals-contaminated soil on the former Li Tungsten facility property that exceed cleanup levels, described above, would be disposed of in a licensed waste disposal facility. Implementation of the preferred alternative would result in significant benefit in the goal of achieving the drinking water MCL standard for arsenic and lead in a shorter time frame, and would also allow redevelopment of the Li Tungsten Superfund Site in substantial conformance with the City of Glen Cove's Revitalization Plan. The accelerated placement of these properties back into commercial and residential viability would also meet the primary objective of EPA's "Recycling Superfund Sites" initiative.

The preferred alternative would provide the best balance of trade-offs among alternatives with

respect to the evaluating criteria. EPA and NYSDEC believe that the preferred alternative would be protective of human health and the environment, would comply with ARARs, would be cost-effective, and would utilize permanent solutions to the maximum extent practicable.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE REASONS FOR THOSE DIFFERENCES

EPA selected its 1999 remedy in anticipation of the future use of the Site as envisioned in the City's 1998 Glen Cove Creek Revitalization Plan, namely commercial/light industrial use. As mentioned above, in the 2004 the City changed the zoning of uses of portions of the Site, and consequently in the 2005 ESD EPA re-evaluated the cleanup levels associated with the 1999 remedy as well as EPA's anticipated future uses in that decision document. EPA ultimately determined in the 2005 ESD that the 1999 ROD cleanup standards are protective of the newly proposed residential uses of the Site. The zoning of Parcel A of the Li Tungsten property was not changed at that time.

The City has since considered changing the permitted use of Parcel A to a mix of commercial and residential from its original commercial/light industrial use, as part of the Garvies Point Mixed-Use Waterfront Development plan. The IDA is now planning to redevelop the Site to include both commercial and residential future uses, public amenities and open space, and retail/restaurant/cultural space.

EPA made a determination in its 2005 ESD that Parcel A required further evaluation in regard to its being used for residential development because of the presence of organic contaminants in the soil and in the shallow groundwater beneath it. EPA's 1998 RI study indicated that semi-volatile organic compounds (SVOCs) were detected predominantly in the surface and subsurface soil on Parcel A. Based on further evaluation, EPA has determined that the majority of this localized SVOC contamination in soil on Parcel A is co-located with metals-contaminated soil that has or will be removed by RXRGIP in the above-referenced response action being performed as part of the pre-closing redevelopment activities.

EPA and NYSDEC believe that the response action on Parcel A that RXRGIP is to perform, coupled with institutional controls and an SMP, will allow for an appropriate redevelopment of Parcel A, albeit with related restrictions. This expectation of EPA will be confirmed by confirmation sampling, the purpose of which will be to demonstrate that the metals-contaminated soil are removed as required herein. If this excavation is not performed, or if it is not performed to EPA's satisfaction, the conditions on Parcel A will be revisited by EPA.

As a result of the IDA's recent change in development plans for Lower Parcel C to commercial use (i.e., an on-slab municipal parking garage), EPA and NYSDEC have reassessed the new planned use of Lower Parcel C, which will revert to commercial/light industrial (as originally specified in the 1999 ROD) from residential (as specified in the 2005 ESD). EPA has determined that the selected remedy will be protective for this new land use.

NYSDEC supports the ESD changes identified in this document.

AFFIRMATION OF STATUTORY DETERMINATIONS

This Proposed Plan, which includes a proposed amendment to the 1999 ROD and an ESD, recognizes changes to a remedy that leaves hazardous substances, pollutants, or contaminants above levels that allow for unlimited use and unrestricted exposure. Pursuant to CERCLA Section 121 (c), EPA shall review such remedies no less often than every five years to assure that human health and the environment are protected. Three five-year reviews have been performed for the Site in August 2005, July 2010, and September 2015. A fourth five-year review will be completed before September 2020.

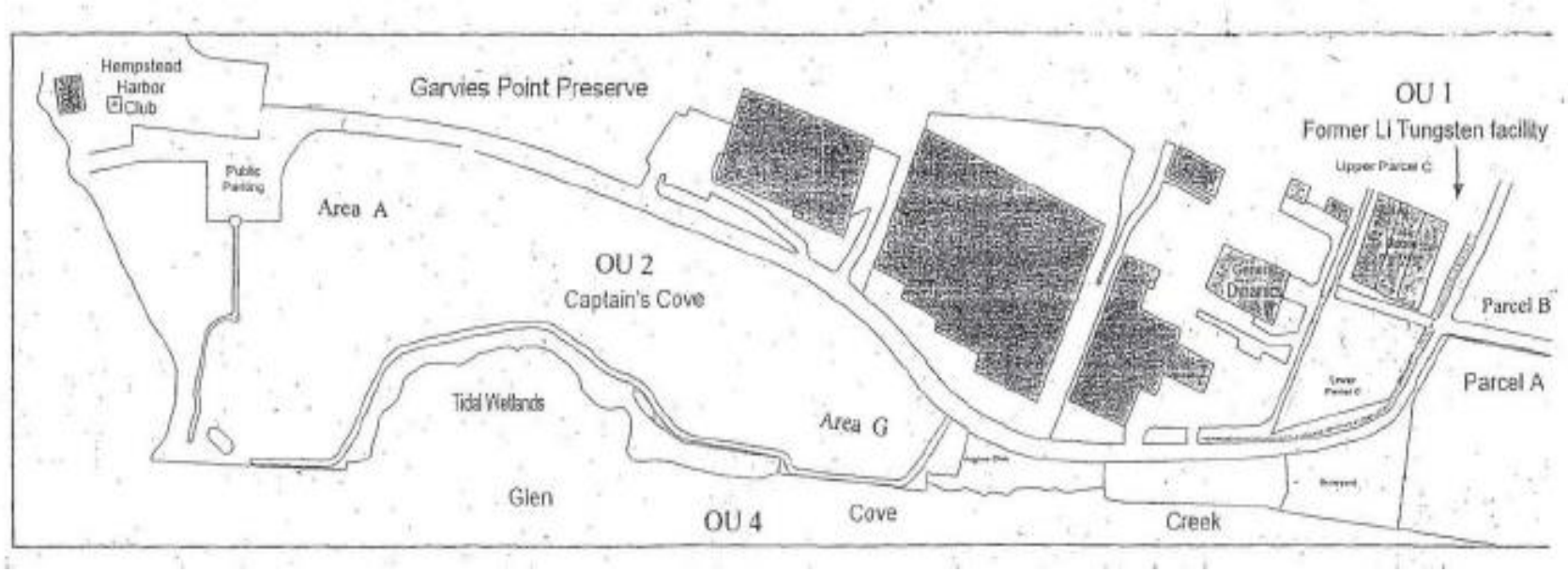
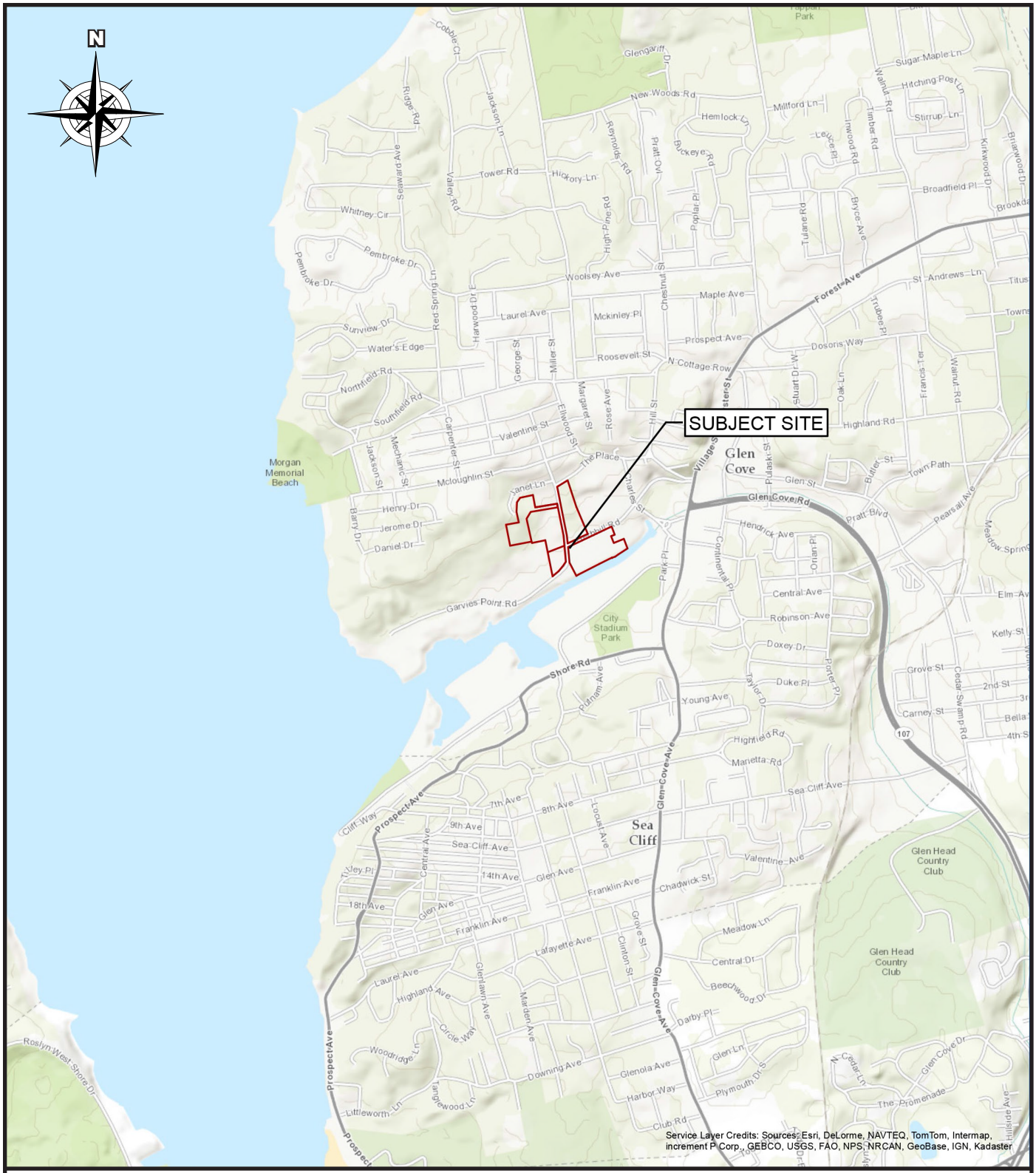


FIGURE 1

Operable Units 1, 2, and 4 Site Map



D&B Engineers and Architects, P.C.

LI TUNGSTEN SITE GLEN COVE, NEW YORK

SITE LOCATION MAP

FIGURE 2

DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
A DIVISION OF D&B ENGINEERS AND ARCHITECTS, P.C.

Li Tungsten Site
OUs 1 and 2 Site Plan

Source: Googlearth.com
SCALE: Not to Scale

Figure 3

0283-10.1 - Li Tungsten Parcels Site Plan v2 December 11, 2012 2:44 PM