PROPOSED REMEDIAL ACTION PLAN

AL Tech Specialty Steel
Operable Unit Number 02: REMEDIAL PROGRAM – HAZARDOUS WASTE LANDFILL
Operable Unit Number 03: ON-SITE STRUCTURES
State Superfund Project
Watervliet, Albany County
Site No. 401003
2018

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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

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

SECTION 2: CITIZEN PARTICIPATION

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

Watervliet Public Library
1501 Broadway
Watervliet, NY 12189
Phone: (518) 274-4471

A public comment period has been set from:

February 16, 2018 thru March 19, 2018

A public meeting is scheduled for the following date:

February 26th, 2018 at 7:00 PM

Public meeting location:

Watervliet Senior Center
1501 Broadway
Watervliet NY, 12189

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

Written comments may also be sent through to:

Ian Beilby
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
ian.beilby@dec.ny.gov

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

Receive Site Citizen Participation Information by Email

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

SECTION 3: SITE DESCRIPTION AND HISTORY

LOCATION: The AL Tech Specialty Steel site lies in an industrial area in the town of Colonie, NY. The AL Tech Main Plant Area (MPA) spans the area between Lincoln Ave and Spring Street Road while the AL Tech Waste Management Area (WMA) is situated on a hillside along Spring Street Road. Other former industrial scale facilities are also located in the immediate vicinity including the former Delaware and Hudson Rail Yard and the former Adirondack Steel and Casting Corporation. Construction of a housing development to the west of the WMA was initiated in 2001.

SITE FEATURES: The MPA encompasses 68 acres and consists of eight large, empty and unused remaining buildings, roadways, concrete foundation slabs and former industrial waste disposal areas. Pioneer plant species are beginning to reclaim some portions of the property which have only a soil cover. The Kromma Kill flows along significant lengths of the north and the east sides of the MPA. The Hudson River is approximately one mile downstream from the MPA. Chainlink fencing was installed around the entire MPA while the plant was in operation. The fencing has been maintained by the Department however evidence of trespassing is readily apparent. Warning signs have been placed on the fencing around both the MPA and WMA stating that the property is a "Hazardous Area" and that trespassing is prohibited pursuant to the Environmental Conservation Law.

The WMA is comprised of 31 acres including a 12-acre Hazardous Waste Landfill. The remaining property contains wooded areas, former parking facilities and the unoccupied leachate storage building. Fencing is currently in-place on the eastern, southern, and western property boundaries and the Kromma Kill to the north. The landfill is surrounded entirely by chainlink fencing and two locked gates. On the WMA, the Kromma Kill overlies the north and east boundaries with an unnamed tributary to the Kromma Kill originating on the south side of the landfill. The Kromma Kill will be addressed under Operable Unit 04. Two unpaved roads are maintained to provide access to the landfill for inspection and maintenance. A second inactive hazardous waste disposal site, Former Bearoff (401069) is adjacent to the south of the landfill.

CURRENT ZONING AND LAND USE: The MPA is zoned "Industrial" while the WMA is comprised of one area to the west zoned "Single Family Residential" and one area to the east zoned "Industrial." The entire property is vacant of active commercial or industrial activities.

PAST USE OF THE SITE: The properties have been utilized solely for the production and activities associated with the production of stainless steel. Development of the property for this purpose began in 1910. Potential polluting activities from the manufacture of stainless steel include disposal of coal ash from early furnaces, storage and distribution of fuel oil, storage and use of various acids for pickling of steel products, use of PCB-containing electrical equipment such as transformers and capacitors on site, and generation of chromium-containing electric arc furnace (EAF) dust. To a lesser extent, there were paints, thinners, solvents, lubricants and other chemicals used in the facility support activities such as equipment and vehicle maintenance as well as general facility maintenance.

While the facility was operating, several areas of the facility on both the MPA and WMA were

the target of remedial action under the Resource Conservation and Recovery (RCRA) program. Those remedial actions are detailed in the following paragraphs.

RCRA Facility Investigation (RFI): An extensive RFI was performed throughout the 1990's. The RFI identified various areas of concern (AOCs) at the facility. AOCs that were identified and are being, or have been addressed under the State Superfund program, include the South Lagoon, transformer areas, and maintenance activities at the WMA. The following AOCs were addressed under RCRA:

Waste Acid Pits: Two in-ground, brick-lined pits were constructed in the central-eastern part of the MPA and were used to store spent sulfuric, hydrofluoric and nitric acids prior to on-site treatment. The pits leaked, consequently their use was discontinued. Sampling revealed that surrounding groundwater over an area of approximately one half-acre was contaminated with several heavy metals and exhibited low pH (acidic) characteristics. A groundwater recovery system was installed to pump groundwater to the on-site treatment plant. The system operated for approximately eight years when groundwater data indicated recovery and treatment was no longer necessary. The wastewater treatment plant was decommissioned in 2004. Decommissioning included closure of the waste acid pits. Results from biannual groundwater monitoring indicate pH has returned to neutral conditions and the metals concentrations have nearly decreased to background levels. Monitoring continues in this area to verify this trend.

The Hazardous Waste Landfill: This landfill formerly consisted of approximately 19 acres and was located in the western half of the WMA. A holding basin in the northwest part of the landfill received EAF dust (K061 federally listed hazardous waste) from mid-1970 to 1980 and the landfill also received lime stabilized waste pickle liquor sludge from 1972 to 1990. Leachate was collected in a surface impoundment at the southern end of the landfill from 1978 to 1988, and was treated at the facility's wastewater treatment plant. After 1988, the surface impoundment was replaced by two leachate collection tanks. Analysis of sludge and sediment samples taken from a stream adjacent to the landfill in 1990 failed the Toxicity Characteristic Leaching Protocol (TCLP) for chrome. AL Tech completed an Interim Remedial Measure (IRM) at the landfill under a 1992 Consent Order. The IRM work involved removing materials from the north face of the landfill, stabilizing the slope, and routing leachate to the wastewater treatment plant. From 2000 to 2003, a stainless steel metal reclamation project was completed to remove valuable metals from the landfill. The remaining waste materials were consolidated into a 12-acre area which is now known as the Hazardous Waste Landfill. From 2003 to 2004 the 12-acre Hazardous Waste Landfill was closed with a Department approved cap conforming to 6NYCRR Part 360 requirements.

A large petroleum spill (Spill ID 8800821) was also identified while the facility was actively producing stainless steel. The Department required AL Tech to install a petroleum recovery system to decrease the quantity of fuel oil present on-site. The oil was located ten feet below ground surface floating on the water table and covers approximately 15 acres. The recovery system was located approximately in the center of the MPA and was in operation for fifteen years and collected approximately 55,000 gallons of fuel oil that had been spilled from the fuel oil distribution lines. The recovery system was shut down once recovery of the petroleum became highly inefficient and was it was primarily groundwater that was being pumped. The

spill remains open and manual recovery and gauging occurs monthly.

Additional remedial actions completed at the site are presented in Section 6 of this document.

OPERABLE UNITS: The site is divided into four operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Operable Unit 1 (OU-01) includes the entire MPA and the non-landfill portion of the WMA

Operable Unit 2 (OU-02) includes the 12-acre hazardous waste landfill and supporting infrastructure (roads and leachate collection building) located in the WMA.

Operable Unit 3 (OU-03) includes the On-Site Structures

Operable Unit 4 (OU-04) includes the Kromma Kill

SITE GEOLOGY AND HYDROGEOLOGY: The site is mostly flat and is situated on layers of fill, alluvial sediments, clay till and bedrock (Snake Hill Shale). Bedrock is found between 1 to 42 feet below ground surface (bgs). There are two groundwater bearing zones, overburden and bedrock. The first continuous water-bearing zone can be as shallow as 5 feet bgs but typically is about 10 to 15 feet bgs. Flow direction in both zones is to the east.

Operable Unit (OU) Numbers 02 and 03 are the subject of this document. References to "site" in the remainder of this document pertain to these two operable units.

A Record of Decision will be issued by the department for OU-01 and OU-04 in the future.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

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

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

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a

site. This may include past or present owners and operators, waste generators, and haulers.

AL Tech initially entered into a comprehensive Order on Consent (Index No. R4-1 467-9302) with the Department effective August 4, 1995. The Order established a prioritization schedule for implementing environmental remediation and construction activities at both facilities, and required the establishment of an Environmental Trust Fund (trust fund) to finance these activities. On December 31, 1997, AL Tech fi1ed a petition for reorganization under Title 11, Chapter 11 of the U.S. Bankruptcy Code. The trust fund was established on March 29, 1999. On July 30, 1999, the Bankruptcy Court approved a plan of reorganization (the plan) which organized RealCo to take title to certain real and personal property owned by AL Tech, and to undertake as its primary activity the environmental remediation required at the Watervliet and Dunkirk facilities.

On September 9, 1999 the Department entered into an Order on Consent with RealCo (Index No. A9-0393-9907) to conduct remedial activities at the site. RealCo was allowed to withdraw from the trust fund up to $2,500,000 over a period of five years for the cost of implementing the remedial, compliance and closure activities at both facilities. The five-year period expired on October 27, 2004. The order also stated that in the event the funds in the trust fund are insufficient to perform all of the activities required, the Department will seek to obtain funding from other State funds in an amount necessary to complete all actions the Department deems necessary.

Since 1999, various responsible parties (RealCo - $1,000,000; Allegheny Steel - $2,800,000; ALTX - $1,000,000; Dunkirk Specialty Steel - $1,000,000; and GATX - $8,650,000) contributed $13,650,000 into the trust fund. An additional $2,035,000 was deposited from the sale of RealCo assets and scrap metals. At the time that responsibility for investigation and remediation transferred from the RCRA program to the State Superfund program $15,685,000 had been spent from the trust fund with a balance $1,018,000. The balance remaining in the trust fund was transferred to the New York State General Fund in May 2016 recognizing that the final site remedy would need to be funded by the Superfund program.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. A site-wide characterization was initiated in 2014 to address any data gaps resulting from areas of the facility that have not been sampled during the course of past investigation activities. Areas sampled where contaminants of concern have been documented include the on-site structures (PCBs), Kromma Kill (lead) and former transformer locations (PCBs).

The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

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

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment
- potentially hazardous building materials

6.1.1: Standards, Criteria, and Guidance (SCGs)

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

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

For OU: 02

Hexavalent Chromium (Prior to Capping)

For OU: 03

polychlorinated biphenyls (PCB)

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:
Soil

6.2: Interim Remedial Measures

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

The following IRMs have been completed on operable units other than OU-02 and OU-03 at this site based on conditions observed during the RI.

Operable Unit 01B - Petroleum Cutoff Wall: In addition to the petroleum recovery system discussed in Section 3, a cut-off wall was installed along the east edge of the property to prevent oil spilled from a leaky distribution network from entering the Kromma Kill. A membrane cutoff wall and light, nonaqueous phase liquid (LNAPL) recovery wells were installed in 2002. That system prevents additional petroleum LNAPL on the MPA from migrating to the Kromma Kill. Monitoring wells and recovery wells are routinely monitored and purged to remove LNAPL from the property. The construction of this IRM is detailed "LNAPL Cutoff/Collection Trench construction completion report, April 2001."

Operable Unit 01C – PCB-containing transformers removal – In 2005 to 2006 seven transformers containing varying concentrations of PCB dielectric fluid were removed from the site. Through completion of this IRM, approximately 2000 gallons of PCBs were prevented from reaching the environment.

Photo 1: Removal of PCB Contaminated Transformers and Fluid

Operable Unit 01D - Miscellaneous Waste Removal: In 2008 various small containers of waste left at the site were collected and disposed of off-site at a permitted facility. Types of waste

included laboratory chemicals, bulk acids, compressed gas cylinders, and varieties of lubricating and fuel oils. In 2015, additional tanks were identified that contained various petroleum products, lubricants, acids, and contaminated water. The tanks were pumped out and the fluids reclaimed or disposed off-site.

Operable Unit 01E - South Lagoon Remediation: In 2011, 250 cubic yards of soil from a small (15’ x 20’ x 10’), bottomless oil/water separator were excavated and removed from the MPA due to high concentrations of PCBs. The area was backfilled with clean material to match surrounding grades. The remaining soils meet commercial soil clean up objectives and the imported fill complies with 6NYCRR Part 375 requirements. Additional details of this IRM are contained in the “Excavation and Disposal of PCB Contaminated Soils in the South Lagoon Area, December 2011” construction completion report.

Operable Unit 01G – Removal and disposal of PCB contaminated sediments/soil and the API oil/water Separator: A large oil/water separator was used for a short time to treat on-site storm water prior to discharge to the Kromma Kill. The storm water system collected very little oil and the separator was determined to be unnecessary. In 2017, the oil/water separator was cleaned and permanently removed from service. Water was pumped from all four bays and remaining sediment was removed and properly disposed of off-site. A construction completion report is not yet available for this IRM

Operable Unit 01H – Spent pickling liquors (spent acids containing heavy metal impurities) were pumped into waste acid pits located outside the Pickle Room. The waste acid pits were comprised of two 8' x 15' x 15' deep sections constructed of acid brick and bituminous-coated concrete walls 24" thick with a usable capacity of 18,000 gallons. The pits were operated from 1951 through 1992. The concentrated acid caused a breakdown of the alkaline concrete mixture and, absent of periodic preventative maintenance, resulted in a heavy metal-containing acid release to the environment. Additionally, acids spilled in the Pickle House were directed to the waste acid pits. Waste from the pits discharged into the waste water treatment plant.

Throughout the IRM, 37.5 million gallons of groundwater was pumped from a one half-acre area adjacent to the Pickle House and piped to the on-site a treatment plant. Pumping was discontinued in 2003 and the IRM was terminated in November of 2004 after evaluation of groundwater monitoring data indicated that metals contamination in this portion of the site had been addressed.

Operable Unit 01I – Tank and Vault Product Removal: Contents of subsurface vaults and various tanks were emptied and then cleaned. The liquid wastes were transferred to DOT-approved containers, transported off-site and disposed of at permitted facilities. The wastes were primarily composed of:

- Approximately 8,000 gallons of oily fluids (petroleum and hydraulic) were recovered;
- Approximately 4,000 gallons of PCB-contaminated liquid and sludge; and
- 250 gallons of metal-contaminated hydrochloric acid.

The removal actions are detailed in a letter completion report dated November 2015.

Operable Unit 02B - The IRM work involved removing waste from the north face of the landfill, stabilizing the slope, and routing leachate to the wastewater treatment plant. From 2000 to 2003, a stainless steel metal reclamation project was completed to remove valuable metals from the waste mass and to consolidate the remaining waste materials into a 12-acre area. From 2003 to 2004 the 12-acre landfill was closed with an impermeable, Department-approved cap. The cap consists of the following components:

- 6-inch Intermediate Cover Layer;
- Geosynthetic Separation Fabric Layer (non-EAF dust disposal area);
- Geosynthetic Clay Liner (Installed in area of EAF dust disposal);
- 60 mil Textured LDPE Geomembrane Layer;
- Double-sided Geocomposite Drainage Layer;
- 12-inch Barrier Protection Layer; and,
- Topsoil Layer.

The existing leachate collection system at the time of the IRM was modified to collect leachate from the down gradient portion of the landfill adjacent to the unnamed tributary and transport it to an on-site leachate storage facility for future treatment.

The cap was constructed to prevent contact between humans and biota to the waste as well as to prevent the waste from migrating off the site through erosion and airborne migration. Additionally, the cap prevents precipitation from seeping into the waste mass, percolating through the waste and mobilizing contaminants to site groundwater. It also reduces the quantity of leachate that is generated and requires treatment.

A construction completion report (CCR) detailing landfill construction was approved in August 2004. Eroded banks of the Kromma Kill were also restored. Currently, upgradient and down gradient monitoring wells are routinely sampled every fifteen months (five quarter monitoring) and leachate continues to be collected, stored and trucked off-site for treatment and disposal. Landfill inspections are performed annually to ensure the integrity of the cap, conditions of on-site vegetation and soil to prevent erosion, status of the on-site fencing, and document any signs of vandalism.

Operable Unit 03A – Decontamination and Demolition of Melt Shop/Baghouse/Castor Building Two electric arc furnaces were housed in the Melt Shop and were the source of all hexavalent chromium at the site. Dust generated during the melting process was collected in the bag house, one component of the air pollution control system. An IRM was performed to address these sources of hexavalent chromium. The components of the IRM included:

- Remove and dispose of the EAF dust and filter bags from the bag house;
- Drain and dispose of PCB oils from the transformers located at the melt shop and the main substation:
- Survey and remove all asbestos containing materials in the melt shop;
- Vacuum clean the inside structural parts of the melt shop and the baghouse compartments; and

- Demolish the melt shop, the baghouse and the caster building.

A significant amount of various hazardous wastes was removed from the site as part of this IRM. These wastes included:

- 26.42 tons of EAF dust bags from the baghouse;
- 37.71 tons of EAF dust from the baghouse;
- 62.37 tons of dust vacuumed from the melt shop as EAF dust;
- asbestos containing materials (880 linear feet of pipe insulation, 3,275 square feet of floor tile, 650 square feet of mastic under floor tile, 37 insulated elbows,12 insulated valves, 6 transite arm shields, several fire suits and fire gloves);
- 16,235 gallons of PCB oil from 12 transformers;
- two transformer carcasses from the melt shop;
- 4,116 gallons of transformer oil containing more than 500 ppm PCBs and a transformer carcass weighing 6,825 pounds;
- 30 gallons of liquid chemicals and 33 pounds of solid chemicals from the melt shop laboratory;
- 23 drums (6,755 pounds) of calcium carbide and calcium silicide as hazardous materials;
- 10,000 tons (estimated) of steel scrap;
- 360 tons of bailed galbestos siding and roofing materials; and
- 410 tons of demolition debris as non-friable asbestos containing materials

A total of five buildings were demolished during the IRM including the melt shop and associated laboratory, baghouse, castor building and the water system building.

6.3: Summary of Environmental Assessment

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

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OUs 02 and 03.

OU-2, Prior to Interim Remedial Measures:

The WMA was operated as an unlined, open industrial waste disposal area where various wastes from the production of stainless steel including slag, EAF dust, spent abrasive grinding equipment, used containers, and miscellaneous facility wastes. Access roads were constructed on both the eastern and western boundaries and facilitated truck traffic around the site. As an open disposal area, large quantities of industrial waste were left exposed to the environment and were susceptible to off-site migration and erosion resulting in contamination of off-site surface water and sediment. These wastes included hexavalent chromium, a listed hazardous waste.

The landfill was situated between the Kromma Kill to the north and an unnamed tributary to the south and east. Open, vacant and/or farmland bordered the western side.

Available documentation, including photos and letters, show the landfill was poorly operated. Large pieces of debris (slag) often tumbled into the Kromma Kill and had to be recovered due to the steep slopes. There were significant seeps of chromium-contaminated leachate observed on the north side of the landfill. A leachate lagoon was maintained in the south-east region of the waste mass, adjacent to the known disposal area of EAF dust.

In 1988, the on-site waste water treatment facility was constructed and landfill leachate was collected and piped to the treatment plant located on the MPA. Here, it was treated with other waste liquids generated at the facility and discharged back to the Kromma Kill. However, the leachate collection system was not effective and leachate continued to migrate from the landfill.

OU-2, Post-Interim Remedial Measures:

The landfilled hazardous waste at the WMA remains capped to prevent exposure and off-site migration. The Department keeps an interim site management plan (ISMP) which specifies what actions are necessary to maintain the landfill in a safe and effective manner and how those actions should be undertaken. In conformance with the ISMP, the following activities are undertaken regularly:

- on-going groundwater monitoring is performed to ensure that groundwater is not being adversely affected by the landfill;
- Inspections are performed on the landfill cap, fencing and roads;
- Landfill leachate is collected, stored and transported for treatment; and
- The Leachate storage building is maintained as necessary.

Monitoring data indicate that groundwater is not impacted by the landfill though groundwater in one area of the property contains concentrations of site-related contaminants that periodically exceed groundwater standards.

Photo 2. Bulk Galbestos on the ground surface

OU-3 – On-Site Structures

Many of the on-site structures have siding and roofing materials that are coated with a material containing PCBs and asbestos called Galbestos. The coating is deteriorating and separating from the sheet metal and falling to the ground becoming a source of PCBs to the adjacent soils. Concentrations of the PCBs vary within the Galbestos but data indicate that soils

immediately adjacent to the structures are more impacted than soils more distant from the PCB source material. Concentration of PCBs in the coating range from less than one ppm to 89,000 ppm. Concentration of PCBs in the adjacent soils range from less than one ppm to 370 ppm. The industrial soil cleanup objective is 25 ppm. PCB concentrations greater than 50 ppm are considered a hazardous waste.

6.4: Summary of Human Exposure Pathways

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

The site is fenced which restricts public access; however, trespassing is occurring and persons who enter the site could contact contaminants in the soil by walking on the site, digging or otherwise disturbing the soil. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not currently represent a concern. Environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings. People using the creek for recreational purposes may come into direct contact with site-related contaminants both in surface water and shallow creek sediments.

6.5: Summary of the Remediation Objectives

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

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Prevent the discharge of contaminants to surface water

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater, surface water, and sediment contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

Surface Water

RAOs for Public Health Protection

- Prevent ingestion of water impacted by contaminants.
- Prevent contact or inhalation of contaminants from impacted water bodies.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Restore surface water to ambient water quality criteria for the contaminant of concern.
- Prevent impacts to biota from ingestion/direct contact with surface water causing toxicity and impacts from bioaccumulation through the marine or aquatic food chain.

SECTION 7: SUMMARY OF THE PROPOSED REMEDY

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the FS report.

A summary of the remedial alternatives that were considered for this site on OU-03 is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's proposed remedy is set forth at Exhibit D.

For OU 02: REMEDIAL PROGRAM – HAZARDOUS WASTE LANDFILL: OU-02 consists of the on-site landfill, buffer areas and supporting infrastructure. Remedial elements for the OU include site management, operation, and maintenance of the cap and supporting infrastructure.

The estimated present worth cost to fully implement the remedy is $1,230,000. Annual costs for site management have been approximately $75,000 which is primarily used to dispose of leachate. Repairs to the landfill cap, access roads and buffer areas are required periodically where erosion has occurred. The leachate transmission line, storage tanks and pumps also require on-going periodic maintenance.

Green Remediation

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste.

Engineering and Institutional Controls

Engineering Controls
1. Engineered Cap
An engineering control in the form of a landfill cap was placed on the site as a component of the IRM and will be maintained.

Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

2. Institutional Controls

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

a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

b. allows the use and development of the controlled property for industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
d. requires compliance with the Department approved Site Management Plan.

3. Site Management Plan

A Site Management Plan is required, which includes the following:

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

   Institutional Controls: The Environmental Easement discussed in Paragraph 2 above.

   Engineering Controls: The engineered cap discussed in Paragraph 1 above.

   This plan includes, but may not be limited to:

   - an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
   - descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
   - provisions for the management and inspection of the identified engineering controls;
   - maintaining site access controls and Department notification; and
   - the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

   - groundwater monitoring, site inspections, etc. as may be required by the Institutional and Engineering Control Plan discussed above. Monitoring will continue at the WMA to ensure that surface water contamination is mitigated as the adjacent Bearoff site (inactive hazardous waste disposal site #401069) undergoes remedial action.

Figure 2-1 depicts the landfill.

For OU 03: ON-SITE STRUCTURES, the proposed remedy is referred to as the Alternative 3b: Contaminated Building Materials Abatement (CBM) and Off-Site Disposal (Truck and Rail Transport).

The estimated present worth cost to implement the remedy is $6,830,000 which is also the capital cost.

The elements of the proposed remedy are as follows:

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

Bulk PCB-containing Galbestos pieces will be removed from the ground surface and disposed off site. Approximately 4,220 cubic yards of sheet metal coated with Galbestos will be carefully removed from the structural frames while dust suppression is applied as needed and shipped off-site for disposal. Additional various other hazardous building materials, including asbestos and PCB-containing window caulk will be removed from the on-site structures and would also be disposed off-site at a hazardous waste facility.

Soil adjacent to the on-site structures that is contaminated with greater than 50 ppm of PCBs will be excavated and disposed off site.

Galbestos that has already deteriorated and fallen to the ground will be collected, bagged and staged for transport and disposal.

Abatement of asbestos containing materials (ACM) is regulated by the New York State Department of Labor (NYSDOL). Abatement of ACM at OU-03 will be conducted in accordance with applicable NYSDOL regulations.

It is anticipated that an existing on-site rail siding will be renovated to allow for direct rail transport from the property to appropriate off-site disposal facilities. On-site monitoring in accordance with an approved Community Air Monitoring Plan will be conducted continuously during all remedial activities. Upon completion of OU-03 remediation, no additional monitoring, maintenance, or institutional controls are necessary in association with OU-03.

Figure 3-1 depicts the structures where CBM will be abated.

Exhibit A
OU-02 – Hazardous Waste Landfill

Nature and Extent of Contamination

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

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into two categories; pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

As described in the ~~RI~~ construction completion report (CCR) and subsequent interim site management reports, waste/source materials were identified at the site and ~~a~~ were impacting soil, surface water, and sediment.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source areas were identified at the site include historic fill, in the form of slag, brick, along with solid and hazardous wastes; EAF dust.

Hazardous waste in the form of EAF dust is located on-site underneath the Department-approved cap. Hazardous waste is no longer migrating to off-site locations and the risk of exposure has been mitigated. An adjacent inactive hazardous waste disposal site (Former Bearoff site #401069) accepted EAF waste from AL Tech and contaminants in that waste appear to be impacting surface water on the WMA. As the Bearoff site is investigated and remediated, surface water on the WMA will be monitored and if necessary, observed issues will be addressed through the site management plan.

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

Groundwater

Groundwater samples were collected from overburden and bedrock monitoring wells. The samples were collected to assess groundwater conditions on and off-site. A well immediately down gradient has intermittently yielded detections of site-related contamination exceeding standards however it produces very little water and generally goes dry during sampling even after continued attempts to increase productivity. A second overburden well far downgradient from the landfill also has also yielded samples with occasional exceedances though the reason is unknown since standards are not exceeded in groundwater samples collected from wells further upgradient and closer to the landfill.

Table # 02.1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Chromium, Hexavalent	0-500	50	16/280
Chromium, Total	0-1,010	50	15/279

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

Groundwater contamination identified during the RFI and closure activities was addressed during the landfill cap construction IRM described in Section 6.2.

Surface Water

Surface water samples have been collected from the adjacent Kromma Kill and unnamed tributaries as part of interim site management. Results of samples collected downstream from the landfill are similar to the results from samples collected upstream. This relationship indicates that the landfill and site-related materials are not impacting surface water. As previously mentioned, hexavalent chromium originating at the AL Tech property is migrating from an adjacent inactive hazardous waste disposal site (401069, Former Bearoff Property), and continues to impact the unnamed tributary. Data from recent site monitoring for potential site-related COCs are shown in Table 3 and are compared to site-specific values that are individually calculated based on the water hardness measured at each sampling station.

Table # 02.2 - Surface Water

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Number of Events SCGs were Exceeded
Inorganics			
Chromium	0 – 760	1312 - 2414	0
Hexavalent Chromium	0 – 730	11	2

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b-SCG: Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1) and 6 NYCRR Part 703: Surface Water and Groundwater Quality Standards.

Surface water contamination identified during the RI was addressed during the IRM described in Section 6.2. However, surface water contamination persists due to the currently unaddressed, adjacent Former Bearoff Property site. Monitoring will continue at the WMA to ensure that surface water contamination is mitigated as the Bearoff site undergoes remedial action.

Sediments

Sediment samples have been collected from the adjacent Kromma Kill and unnamed tributaries as part of interim site management. They were collected to determine whether site-related contaminants had migrated to the adjacent stream and deposited within the stream bottom. Results of samples collected downstream from the landfill are elevated compared to the results from samples collected upstream which indicates that landfilling activities have

likely impacted the Kromma Kill. Chromium and nickel are the site-related contaminants that are most frequently detected above applicable SCGs.

The Kromma Kill is included in OU-04 for this site and therefore any further remedial response will be evaluated through the RI/FS phase of OU-04.

COC's related to the Former Bearoff site are found in the unnamed tributary and will be addressed through the RI/FS process for that site.

Exhibit B
OU-02 – Hazardous Waste Landfill

Description of Remedial Alternatives,

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Under this alternative, the following previously constructed IRM components will not be maintained:

1. Landfill Cap – the landfill cap would not be inspected for erosion or integrity, nor would it be mowed annually to prevent vegetation and tree growth;
2. Fencing – the fencing that prevents trespassers from entering the site would not be maintained and would eventually become overgrown;
3. Leachate – the leachate collection infrastructure would not be maintained nor would the leachate that is currently being collected be removed from the site. Leachate would eventually overtop the tanks and flood the building and lower WMA property;
4. Leachate Building and Supporting Infrastructure – the WMA roads and leachate building would not be maintained leading to disrepair and similar conditions as currently exist on the MPA.

Alternative 2: No Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2 and Site Management and Institutional Controls and Engineering Controls are necessary to confirm the effectiveness of the IRM. This alternative maintains engineering controls which were part of the IRM and includes institutional controls, in the form of and environmental easement and site management plan, necessary to protect public health and the environment from contamination remaining at the site after the IRMs.

The "no further action" (NFA) with site management alternative would allow for on-going maintenance of the landfill. The cap will be inspected annually and on-site supporting infrastructure will be maintained. Leachate will continue to be collected and transported off-site for treatment and disposal. There is no capital cost associated with the NFA with site management alternative since the landfill has already been consolidated and capped.

Present Worth: ..... *$ 1,230,000*
Capital Cost: *$0*
Annual Costs: *$75,000*

Alternative #: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative ~~would~~ will include: excavation, transportation and disposal at an off-site alternate permitted facility of approximately 1,200,000 cubic yards of waste material. This will require approximately 40,000 tractor trailer loads of waste traveling through the local communities. Transportation and disposal costs along with a significant amount of earthwork and restoration costs are included in the capital costs.

Capital Cost:.....$138,600,000

Exhibit C
OU-02- Hazardous Waste Landfill

Remedial Alternative Cost Summary

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
NFA with Site Management	0	$75,000	$1,230,000
Predisposal	$138,600,000	0	$138,600,000

Exhibit D
OU-02 - Hazardous Waste Landfill

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative #2, No Further Action with Site Management as the remedy for this site. Alternative #2 would achieve the remediation goals for the site by preventing migration of hazardous waste to groundwater and surface water. It also prevents exposure to existing on-site waste. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 2-1.

Basis for Selection

The proposed remedy is based on the results of the RCRA Facility Investigation Report, Construction Completion Report and annual interim site management reports. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375.

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

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

The proposed remedy (Alternative #2) will satisfy this criterion by preventing migration of hazardous waste to groundwater and surface water. It also prevents exposure to existing on-site waste. Alternative 1 does not satisfy this criteria and engineering controls (landfill cap and supporting infrastructure) will eventually fail, threatening human health and the environment. Alternative 1 is thus eliminated from further consideration. Alternative 3 does not provide additional protection the environment Both Alternatives 2 and 3 are protective of human health.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Alternatives 2 & 3 comply with NYS standards.

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

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

Both Alternatives 2 and 3 provide the same degree of long-term effectiveness while both require operation and maintenance to maintain engineering controls.

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

Alternative 2 provides the highest degree in the reduction of mobility while none of the available alternatives reduce toxicity or volume. Under alternative 3, the potential for migration of on-site waste is more pronounced due to removal of the cap and transportation of a large amount of waste.

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

Alternatives 1 and 2 have no short-term impacts while Alternative 3 has potential for significant short-term impacts to the local communities and environment in the form of noise and the physical impacts of traffic and traffic emissions.

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

Alternative 2 has already been implemented and therefore, satisfies this criterion. Alternative 3 is technically implementable. The “implementability” criterion does not apply to Alternative 1.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

Alternative 2 is cost effective in that funds have already been invested in the capital cost of the remedy. Additionally, the Department continually looks for opportunities of remedial system optimization which may reduce further costs. Alternative 1 is not cost effective because it does not protect human health and the environment while Alternative 3 does not significantly enhance protections to human health and the environment with the additional cost of implementation.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

None of the alternatives provide for more productive use of the site. There is a utility-owned parcel and existing high-tension electrical towers and power lines through the middle of the property. The landfill was created by disposing of waste over a steep hillside which would still exist if the waste was removed.

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

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 2 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

Exhibit A
OU-03 – On-Site Structures

Nature and Extent of Contamination

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

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into one category: polychlorinated biphenyls (PCBs). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 4 and Section 6.1.1 are also presented.

Waste/Source Areas

As described in the OU-03 RI, waste/source materials were identified at the site and are impacting soil.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source areas were identified at the OU include, PCB-containing materials in the form of Galbestos. The Galbestos was originally used as a weather coating on the building sheetmetal dating from the late 1930's but is now delaminating, falling to the ground and contaminating the soil with PCBs. Analysis for PCB concentrations in the Galbestos indicates a wide variability of the contaminant; from non-detect up to several hundred ppm. A detailed survey of the buildings conducted as part of the OU-03 FS calculated 3,300 cy of Galbestos coated sheetmetal with concentrations below 50 ppm and 920 cy of Galbestos coated sheetmetal with concentrations greater than 50 ppm.

The Galbestos also contains asbestos. Of the samples that were collected, greater than 90% of the Galbestos contains asbestos at greater than 1% making the material a regulated asbestos containing material (ACM), a hazardous substance.

Soil

Soil samples were collected from locations around the perimeter of the buildings and analyzed at a mobile, on-site laboratory. 237 surface soil samples, 116 shallow surface soil samples and 7 subsurface soil samples were collected to delineate where PCB-contaminated Galbestos had impacted on-site soil. On-site laboratory analysis was validated with ELAP-certified laboratory analysis.

Because the site is zoned industrial and access controls are in place, contaminated soils were not compared to the unrestricted SCO for the tables below for the purposes of OU-03. Sampling was performed to document the migration of PCB-contaminated materials to the soil and provide delineation for future remedial actions deemed necessary under OU-01, the MPA.

Table # 03.1 - Surface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Commercial SCG[b] (ppm)	Frequency Exceeding Commercial SCG	Industrial SCG[c] (ppm)	Frequency Exceeding Restricted SCG	Protection of Ground water[d] (ppm)	Frequency Exceeding Restricted SCG
Pesticides/PCBs							
Total PCBs	0.14 – 370	1	115/237	25	6/190	3.2	57/190

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Industrial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater. {The GW SCO should be listed for the primary contaminants of concern listed in the Groundwater section above}

Table # 03.2 - Shallow Subsurface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Commercial SCG[b] (ppm)	Frequency Exceeding Commercial SCG	Industrial SCG[c] (ppm)	Frequency Exceeding Restricted SCG	Protection of Ground water[d] (ppm)	Frequency Exceeding Restricted SCG
Pesticides/PCBs							
Total PCBs	0.2 – 48	1	81/116	25	6/101	3.2	59/101

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Industrial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater. {The GW SCO should be listed for the primary contaminants of concern listed in the Groundwater section above}

Table # 03.3 - Subsurface Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Commercial SCG[b] (ppm)	Frequency Exceeding Commercial SCG	Industrial SCG[c] (ppm)	Frequency Exceeding Restricted SCG	Protection of Ground water[d] (ppm)	Frequency Exceeding Restricted SCG
Pesticides/PCBs							
Total PCBs	1.16 – 6.85	1	5/7	25	0/5	3.2	2/5

Exhibit B
OU-03 - On-Site Structures

Description of Remedial Alternatives,

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

This alternative will be used as a baseline for comparison to other remedial alternatives. No action will be taken to address contaminated structures at the Site. No Action will be retained as Alternative 1.

Alternative 2: Contaminated Building Materials (CBM) Abatement with On-Site Disposal

Alternative 2 includes abatement of CBMs with on-site disposal of materials in a constructed on-site landfill. The major components of Alternative 2 are the following:
• pre-design investigations
• permit acquisition
• landfill design, work plans, and reports
• Site preparation, mobilization, and temporary facilities and controls
• construction of the on-site landfill
• targeted removal and management of CBM on ground surface
• CBM abatement
• long-term operation, maintenance and monitoring (OM&M) of the on-site landfill.

Under this alternative, a lined disposal cell would be constructed on-site. Design documents would be drafted, reviewed and approved for a facility with capacity for all on-site CBM with capability to collect leachate generated through the disposal process. Once construction of the disposal cell has been completed and approved, Galbestos-coated sheet metal and other contaminated materials, such as PCB-containing caulk and asbestos insulation, will be carefully removed from the structures with on-going air monitoring to ensure contaminants do not migrate off-site. On-site monitoring in accordance with an approved Community Air Monitoring Plan (CAMP) will be conducted continuously during all remedial activities. When necessary, appropriate dust suppression will be applied. The CBM, including bulk Galbestos located on the ground surface will be placed in the on-site disposal cell.

All hazardous materials that are collected from, and around, the structures will be bagged in heavy duty polyethylene prior to staging and transport though soils that have been determined to be nonhazardous (PCBs less than 50 ppm) will remain on site site under the OU-03 remedial action.

Uncontaminated building foundation slabs will remain on site. Soil and concrete impacted by hazardous waste will be addressed under the OU-01 remedial action.

Once all CBM has been placed in the disposal cell, the cell will be closed with an impermeable cap to prevent future exposure to, and migration of, hazardous materials. Leachate from any remaining moisture below the landfill cap will be collected and treated.

Any structural steel that is taken down would be transported to an off-site recycling facility.

Present Worth: ..... *$ 9,080,000*
Capital Cost: *$6,820,000*
Annual Costs: (Routine Inspections, Maintenance and Reporting) *$89,000*
Annual Costs: (Years 1-5; Quarterly Sampling & Leachate Management) *$56,000*
Annual Costs: (Years 6-30, Semi-Annual Sampling) *$14,000*

Alternative 3a: Contaminated Building Materials Abatement and Off-Site Disposal (Over-Road Transport)

Alternative 3A includes abatement of CBMs with off-Site disposal of materials via vehicular transport. The major components of Alternative 3A are the following:
• pre-design investigations
• design and work plans
• site preparation, mobilization, and temporary facilities and controls
• targeted removal and management of CBM on the ground surface
• CBM abatement
• off-site disposal of CBMs by over-road transport.

Under this alternative, Galbestos-coated sheet metal and other contaminated materials, such as PCB-containing caulk and asbestos insulation, will be carefully removed from the structures with on-going air monitoring to ensure contaminants do not migrate off-site. On-site monitoring in accordance with an approved CAMP will be conducted continuously during all remedial activities. When necessary, appropriate dust suppression will be applied. The CBM, including bulk Galbestos located on the ground surface will be staged for transport and loaded to over-road trucks for transport to an appropriate disposal facility.

All hazardous materials that are collected from, and around, the structures will be bagged in heavy duty polyethylene prior to staging and transport though soils that have been determined to be nonhazardous (PCBs less than 50 ppm) will remain on site under the OU-03 remedial action.

Uncontaminated building foundation slabs will remain on site. Soil and concrete impacted by hazardous waste will be addressed under the OU-01 remedial action.

Any structural steel that is taken down would be transported to an off-site recycling facility. Steel and other recyclable materials would be shipped off-site using over-road transport.

Present Worth: ..... *$ 7,540,000*
Capital Cost: *$7,540,000*
Annual Costs: *$0*

Alternative 3b: Contaminated Building Materials Abatement and Off-Site Disposal (Truck & Rail Transport)

Alternative 3B includes abatement of CBMs with off-site disposal of materials via rail. The major components of Alternative 3B are the following:
• pre-design investigations
• design and work plans
• Site preparation, mobilization, and temporary facilities and controls
• targeted removal and management of CBM on the ground surface
• CBM abatement
• off-site disposal of CBMs by truck and rail transport.

Under this alternative, Galbestos-coated sheet metal and other contaminated materials, such as PCB-containing caulk and asbestos insulation, will be carefully removed from the structures with on-going air monitoring to ensure contaminants do not migrate off-site. On-site monitoring in accordance with an approved CAMP will be conducted continuously during all remedial activities. When necessary, appropriate dust suppression will be applied. The CBM, including bulk Galbestos located on the ground surface will be staged for transport and loaded to on-site rail cars for transport to an appropriate disposal facility.

All hazardous materials that are collected from, and around, the structures will be bagged in heavy duty polyethylene prior to staging and transport though soils that have been determined to be nonhazardous (PCBs less than 50 ppm) will remain on site under the OU-03 remedial action.

Uncontaminated building foundation slabs will remain on site. Soil and concrete impacted by hazardous waste will be addressed under the OU-01 remedial action.
Any structural steel that is taken down would be transported to an off-site recycling facility. Steel shipped off-site under this alternative would likely be staged at the on-site rail facility and transported using rail; minimizing the use of truck traffic.

Present Worth: ..... *$ 6,830,000*
Capital Cost: *$6,830,000*
Annual Costs: *$0*

Exhibit C
OU-03 - On-Site Structures

Remedial Alternative Cost Summary

Table # 03.4

Alternative Components	**Alternative Number**			
	1	2	3a	3b
Cost*	-	$9.08M	$7.54M	$6.83M
OU-03				
No Action	X			
Siding Removal (on-site disposal)		X		
Siding Removal (off-site disposal by truck)			X	
Siding Removal (off-site disposal by rail)				X

* Costs are "Present Worth"

Exhibit D
OU-03 - On-Site Structures

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative3b, Contaminated Building Materials Abatement and Off-Site Disposal (Truck & Rail Transport) as the remedy for this site. Alternative 3b will achieve the remediation goals for the site by preventing migration of hazardous waste to soil. It also eliminates exposure to existing OU-03 PCB waste. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 3-1

Basis for Selection

The proposed remedy is based on the results of the RI report. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

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

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

Alternatives 2, 3a and 3b will satisfy this criterion by preventing migration of hazardous substances from OU-03 to surrounding media and eliminates exposure to existing OU-03 waste.

Alternative 2, 3a and 3b also protects human health and the environment while Alternative 1 does not.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Alternatives 2, 3a, and 3b comply with NYS standards while Alternative 1 does not.

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

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

Alternative 1 does not include actions to address building materials contamination at the Site. This remedy does not currently meet RAOs and will not be expected to meet RAOs in the future.

Alternative 2, although protective of human health and the environment, requires long-term maintenance and

monitoring of the on-Site landfill.

Alternatives 3A and 3B rate the highest for long-term effectiveness and permanence because CBM will be removed from the Site.

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

Alternative 1 will not result in the reduction of toxicity, mobility, or volume of contamination.

Alternative 2 will effectively reduce the toxicity, mobility or volume of the CBM.

Alternatives 3A and 3B will reduce toxicity, mobility, and volume of CBM on-Site by transporting all CBM off-Site for disposal either by truck or rail.

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

Alternatives 2, 3a, and 3b all have short-term impacts in the form of potential noise, increased traffic and dust. Measures will be instituted to minimize the amount of dust that is generated and permanent monitoring stations will be installed to ensure the instituted measures are effective.

Alternative 1 has no elevated short-term impacts.

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

Alternative 1 requires no action, therefore there are no technical difficulties associated with this alternative. However, this alternative does not meet current regulatory requirements.

Alternative 2 requires building an on-Site landfill, in addition to conducting abatement activities. Landfills can be implemented fairly easily; however, it requires predesign investigations, permit acquisition, a detailed design, and several work plans and permits throughout the process.

Alternatives 3A and 3B rate equally with regard to implementation. Abatement activities will be conducted by qualified and licensed asbestos abatement contractors. CBM will be removed in the same manner for both alternatives 3A and 3B, and placed in containers using similar methods. It is assumed that coordination with freight via rail and via truck will be similar.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

Alternative 1 is not cost effective because it does not satisfy the threshold criteria.

Alternatives 3a and 3b are both relatively cost effective because they are equally implementable and institute an effective remedy.

Alternative 2 is less cost effective because of operation and maintenance costs.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

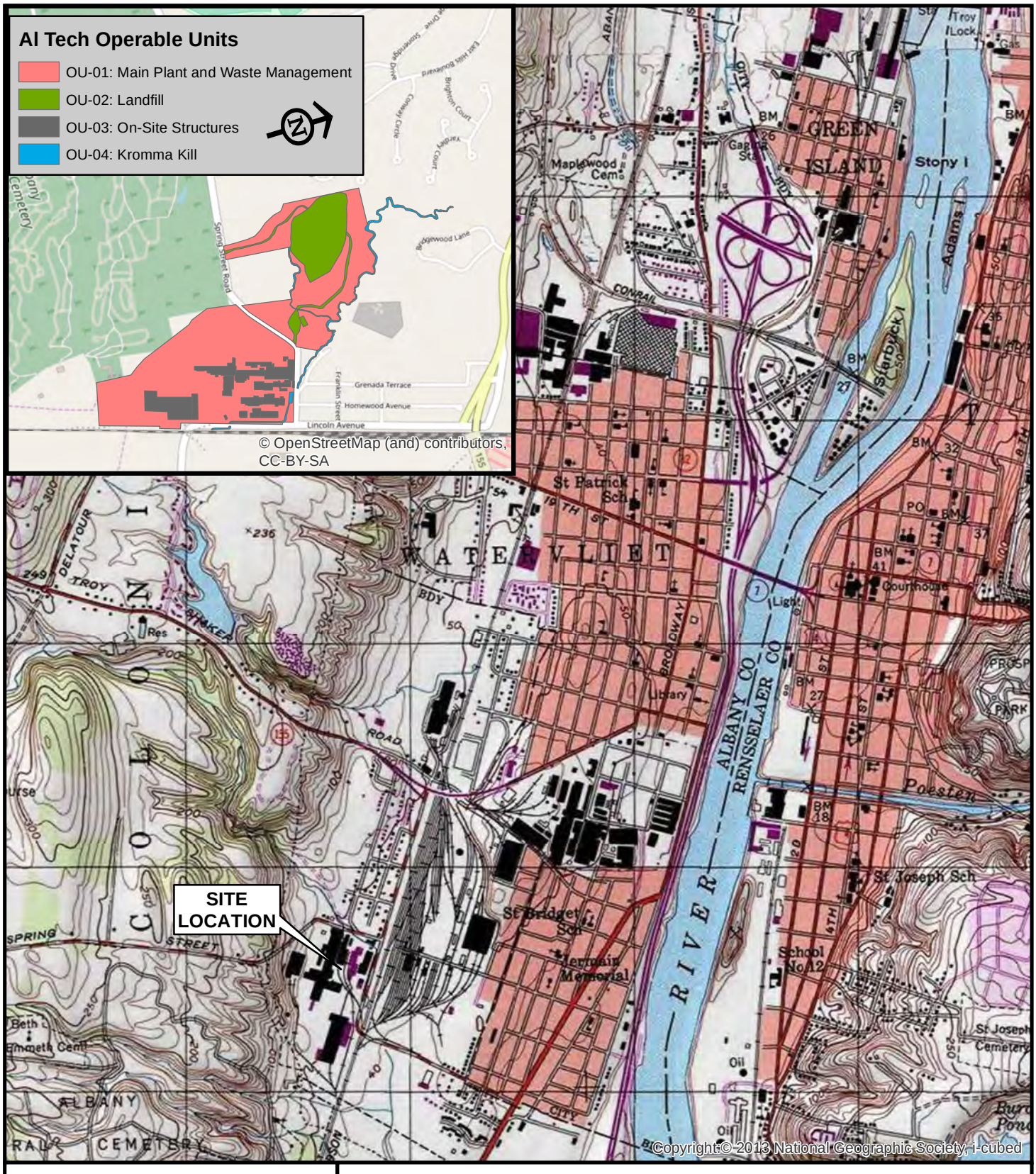
Alternatives 3a and 3b provide for the greatest return to productive use of the site.

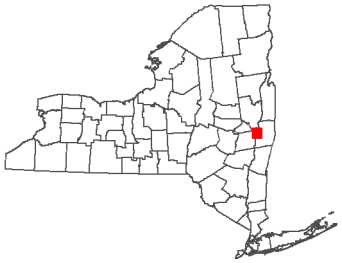
Alternative 1 leaves sources of hazardous waste over a large portion of the property while Alternative 2 includes an on-site landfill that would with occupy approximately 13,000 square feet (approximately 1/3 of an acre) along with supporting infrastructure.

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

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 3b is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.





N
W E
S

0 950 1,900
Feet

Figure 1

Site Location Map

Al Tech Specialty Steel
Town of Colonie
Albany County
Site No. 401003

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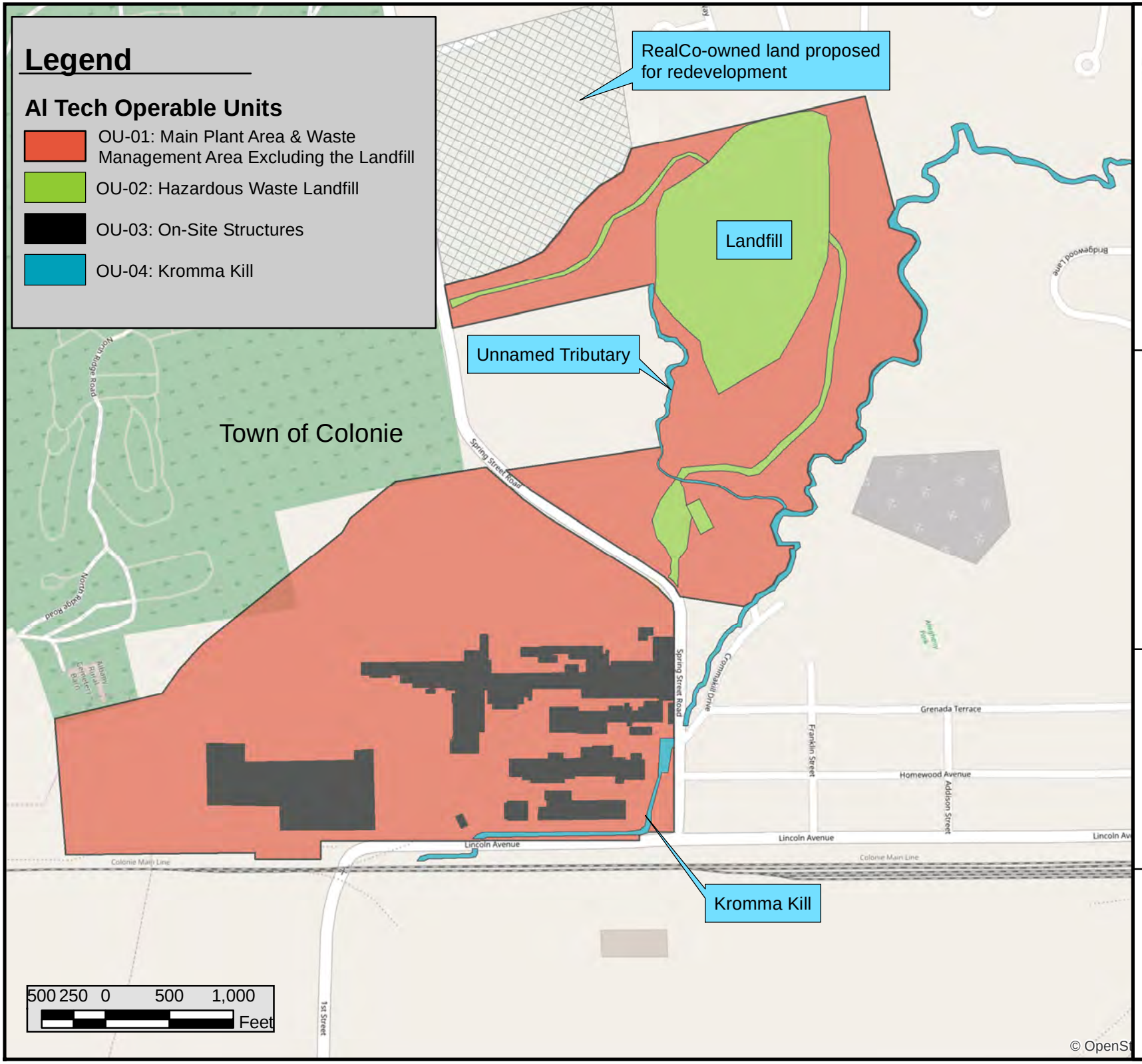

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New York State
Department of Environmental Conservation

Division of
Environmental Remediation

AL Tech Specialty Steel

DEC Site No.: 4-01-003

FIGURE 2

Operable Unit Boundaries

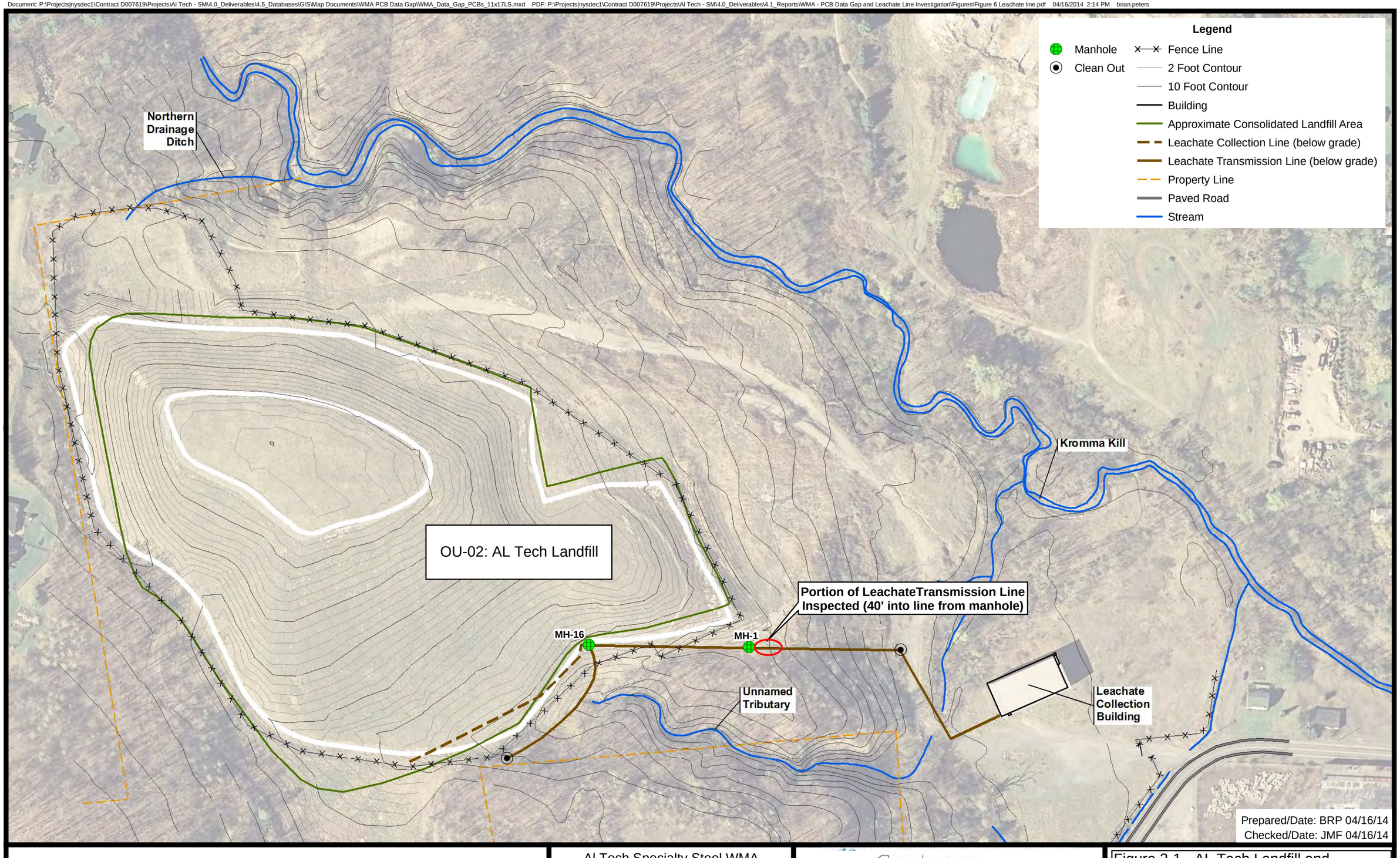
Map Details

Created in ArcMap 10
Date of Last
Revision: 10.28.2015

N

North American Datum 1983
UTM Zone 18

Document: P:\Projects|nysdec1\Contract D007619\Projects\Al Tech - SM\4.0_Deliverables\4.5_Databases\GIS\Map Documents\WMA PCB Data Gap\WMA_Data_Gap_PCBs_11x17LS.mxd PDF: P:\Projects|nysdec1\Contract D007619\Projects\Al Tech - SM\4.0_Deliverables\4.1_Reports\WMA - PCB Data Gap and Leachate Line Investigation\Figures\Figure 6 Leachate line.pdf 04/16/2014 2:14 PM brian.peters



N

0 75 150 Feet

Albany County color digital orthoimagery (2007) obtained from New York State GIS Clearinghouse at: http://www.nysgis.state.ny.us

Al Tech Specialty Steel WMA
NYSDEC Site # 401003
Colonie, New York

NEW YORK STATE OF OPPORTUNITY Department of Environmental Conservation

Figure 2-1 - AL Tech Landfill and Supporting Infrastructure

Legend

On-Site Structures

Structure Disposition

Leave In Current State

On-Site Structure Abatement

MELT SHOP-
PREVIOUSLY
DEMOLISHED
AS AN IRM

10
14
12
09
21
22
20
23
24
17
28
27
37
36
32
31
30
33

Meters
50 25 0 50 100 150

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New York State
Department of Environmental
Conservation

Division of
Environmental Remediation

AL Tech Specialty Steel
DEC Site No.: 4-01-003

FIGURE 3-1

OU-03: Proposed
Remedial Action for
On-Site Structures

Map Details

Created in ArcGIS 10.3

Last Revision: 01.12.2018

North American Datum 1983
UTM Zone 18