PROPOSED REMEDIAL ACTION PLAN

Katzman Recycling
State Superfund Project
Granville, Washington County
Site No. 558035
February 2019

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:

A public comment period has been set from:
Tuesday February 26, 2019 to Thursday March 28, 2019

A public meeting is scheduled for the following date:
Thursday March 21, 2019 at 7PM

Public meeting location:

Granville Town Hall
42 Main Street
Granville, NY 12832

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 March 25, 2019 to:

Michael McLean, P.E.
NYS Department of Environmental Conservation
1115 NYS Route 86 PO Box 296
Ray Brook, NY 12977
mike.mclean@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 Katzman Recycling site is a 20-acre site located at 24 County Route 26. This site is south of the village of Granville near the intersection of County Route 26 and US Route 22.

Site Features: The site is a former metal recycling and recovery facility that operated from 1949 to 2007. The former facility currently consists of an incinerator building and storage pole barn located on the north central portion of the site. This developed area is littered by waste materials which includes auto parts, chain saws, automobiles, heavy equipment, white goods, transformer carcasses, capacitors, electrical equipment and numerous metal debris. The site is generally level

except for the southwest portion, which is approximately 30 feet lower than the rest of the site. Most of the site is undeveloped, and the eastern half of the property is heavily wooded. There is a wetland located on the south end of the site and a second delineated wetland near the center of the property, east of the main accumulation area. The site drainage is expected to flow towards the Indian River, located on the southwest side of Route 22, which ultimately flows into the Mettawee River.

Current Zoning and Land Use: The site is currently inactive and is zoned for commercial use. The surrounding parcels are currently used for a combination of commercial, agricultural, and residential purposes.

Past Use of the Site: For approximately 58 years, from 1949 to 2007, the site operated as a facility which accepted various metal products for recovery and recycling. Discarded items identifiable at the surface include: carburetors, chain saws, white goods, auto parts, old automobiles, heavy equipment, transformer cases, capacitors, and other electrical items. Soil samples have confirmed the presence of PCBs above 50 parts per million (ppm) which classifies the soil as a hazardous waste. Oily wastes and general refuse were also found at the site.

Site Geology and Hydrogeology: The subsurface geology consists of brown, medium sand above a gray to brown silt, beginning at approximately five feet below ground surface (bgs) and extending up to a maximum depth of approximately 44 feet bgs. Native soil within the main waste accumulation area was observed to be overlain by fill material consisting of abundant debris, ash, and scrap material. Groundwater is generally present at 12 feet bgs. The inferred predominant groundwater flow direction in the overburden aquifer at the site is toward the west-southwest, in the direction of the wetland located in the southwest section of the site.

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. The site is currently zoned commercial. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial 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.

The PRPs for the site, documented to date, include:

Samuel H. and Louise Katzman

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. 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 wastes,
- 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,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment

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 are:

Polychlorinated Biphenyls (PCBs)
Volatile Organic Compounds (VOCs)
Semi-volatile Organic Compounds (SVOCs)
Arsenic
Chromium
Lead
Cadmium
Barium

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

Soil
Groundwater

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 IRM has been completed at this site based on conditions observed during the preliminary site sampling.

Interim Remedial Measure

In an attempt to address the most significantly PCB-impacted area, between October 2014 and January 2015 Precision Environmental Services removed surface soil and subsurface soils to a depth of as much as three feet in the immediate area of the former incinerator building. Approximately 2,200 tons of PCB-impacted soil was transported off-site for final disposal. Several transformer "windings" were also properly disposed of.

The IRM was unsuccessful in removing the PCB impacted soil. In fact, the concentrations of PCBs increased the deeper the excavation proceeded in some locations. At the limits of the IRM excavation the PCB concentrations ranged from .45ppm to 1,100 ppm.

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.

Nature and Extent of Contamination: Soil, groundwater, surface water, and sediments were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), and pesticides.

Based upon investigations conducted to date, the primary contaminants of concern are PCBs and inorganic metals.

Soil - PCBs were found in soil at depths ranging from 0 to 12 feet below ground surface, generally near the incinerator building. The maximum PCB concentration was 6,600 ppm in Test Pit #17 near the incinerator building, which exceeds the soil cleanup objective (SCO) for commercial use of 1 ppm in surface soils and 10 ppm in subsurface soils, as well as the Protection of Groundwater SCO of 3.2 ppm. Various metal contaminants are found in the same area as the PCBs. The data does not indicate any off-site impacts in soil related to this site.

Groundwater - PCBs were detected at a concentration above the ambient groundwater quality standard in one groundwater sample collected in August 2016 (2.7 parts per billion [ppb]). Various low-level VOCs were also detected in one monitor well in the main waste accumulation area. The data does not indicate any off-site impacts in groundwater related to this site.

Surface water - PCBs were not detected in any surface water samples. The data does not indicate any off-site impacts in surface water related to this site.

Sediments - PCBs were not detected above the 1 ppm Class C sediment guidance value in any sediment samples. A Class C sediment is one that has a high potential to be toxic to aquatic life. The data does not indicate any off-site impacts in sediment related to this site.

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*.

Access to the site is not restricted and people who enter the site could contact contaminants in the soil by walking on it, digging or otherwise disturbing the soil. While there are some contaminants in wetland sediments, it is unlikely that people will come into contact with them as they are isolated in nature and heavy wetland vegetation will exclude most contact with the sediment. People will not come into direct contact with contaminated groundwater unless they dig below the ground surface. 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. The site is vacant so inhalation of site contaminants in indoor air via soil vapor intrusion is not a current concern.

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.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

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 or surface water contamination.

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 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.

The proposed remedy is referred to as the Removal of Surface Soil with PCBs greater than 1 ppm and Subsurface Soil with PCBs greater than 10 ppm with Site Management.

The estimated present worth cost to implement the remedy is $8,310,000. The cost to construct the remedy is estimated to be $6,760,000 and the estimated average annual cost is $170,000.

The elements of the proposed remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, 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:

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

2. Excavation

Existing on-site buildings will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of all on-site soils which exceed the SCOs for PCBs established in Commissioner Policy CP-51 of 1 ppm in surface soils and 10 ppm in subsurface soils.

Approximately 9,400 cubic yards of soil will be removed. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

3. Cover System

A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but

are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.
The area of existing trees and other vegetative growth in areas of the site may remain as part of the site cover.

4. Institutional Controls

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

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

5. Site Management Plan

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

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

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

Engineering Controls: The site cover discussed in Paragraph 3 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 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.

Exhibit A

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 5 categories; volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PCBs, metals, and pesticides. 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.

Groundwater

Two rounds of groundwater samples were collected from the monitoring wells in August 2016 and April 2017. Groundwater samples were analyzed for VOCs, SVOCs, metals, and PCBs. During the April 2017 groundwater sampling event, the samples were also analyzed for 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS). Refer to Table 1.

Five (5) VOCs were detected at concentrations above Class GA values in monitoring well KTZ-MW-4, and one (1) VOC was detected at a concentration above Class GA values in monitoring well KTZ-MW-5. There were a few low-level VOC detections, but no indication of extensive contamination. These detections appear to be localized.

There were no detections of SVOCs at concentrations above Class GA values.

Metals were detected at levels exceeding Class GA values in all monitoring wells, except for KTZ-MW-2. Iron, manganese, and sodium are typically found naturally in the environment and are not considered site related contaminants of concern.

During the August 2016 groundwater sampling event, one monitoring well contained PCB concentrations above the Class GA value. Monitoring well KTZ-MW-3 contained a total PCB concentration of 2.7 ppb, which is above the Class GA value of 0.09 ppb. No PCBs were detected above the corresponding Class GA value during the April 2017 groundwater sampling event. This MW is in the main waste area and this area will be remediated.

PFAS were detected at varying concentrations in each of the seven sampled monitoring wells. PFAS detections ranged from 0.40 parts per trillion (ppt) (perfluorodecanoic acid) to 2,700 ppt (perfluoropentanoic acid). PFAS concentrations were higher in the main accumulation area.

Remedial alternatives will be evaluated for groundwater.

Table 1 – Summary of Detections in Groundwater

VOCs			
Analyte	**Concentration Range (µg/L)**	**Class GA Value* (µg/L)**	**Frequency Exceeding Class GA Value**
1,2,4-Trichlorobenzene	4.3 - 12	5	1/13
1,3-Dichlorobenzene	ND - 8.8	3	1/13
1,4-Dichlorobenzene	ND - 28	3	1/13
Benzene	ND - 5.0	1	1/13
Chlorobenzene	ND - 310	5	1/13
Xylenes, Total	ND - 5.2	5	1/13
Perfluorobutanoic acid (PFBA)	ND - 2.6	NS	0/7
Perfluoropentanoic acid (PFPeA)	ND - 2.7	NS	0/7
Perfluorohexanoic acid (PFHxA)	ND - 0.001	NS	0/7
Perfluoroheptanoic acid (PFHpA)	ND - 0.0064	NS	0/7
Perfluorooctanoic acid (PFOA)	ND - 0.016	0.07**	0/7
Perflouorononanoic acid (PFNA)	ND - 0.0024	NS	0/7
Perfluorododoeanoic acid (PFDA)	ND - 0.00077	NS	0/7
Perfluorobutanesulfonic acid (PFBS)	ND - 0.11	NS	0/7
Perfluorohexanesulfonic acid (PFHxS)	ND - 0.0088	NS	0/7
Perfluoroheptanesulfonic acid (PFHpS)	ND - 0.00066	NS	0/7
Perfluorooctanesulfonic acid (PFOS)	ND - 0.043	0.07**	0/7
Perfluorooctane sulfonamide (FOSA)	ND - 0.0018	NS	0/7
PCBs			
Analyte	**Concentration Range (µg/L)**	**Class GA Value* (µg/L)**	**Frequency Exceeding Class GA Value**
Total PCBs	ND - 2.7	0.09	1/13
Metals (Unfiltered)			
Analyte	**Concentration Range (µg/L)**	**Class GA Value* (µg/L)**	**Frequency Exceeding Class GA Value**
Iron	31 - 4,600	300	5/13
Manganese	7.0 - 8,100	300	6/13
Sodium	5,900 - 30,200	20,000	3/13

Notes:
µg/L - micrograms per liter
ND - Analyte was not detected above the laboratory quantitation limit
NS – no standard established
VOCs - Volatile Organic Compounds
PCBs - Polychlorinated Biphenyls
* - NYSDEC Ambient Water Quality Standards and Guidance Values for Class GA water.
** - Health Advisory Limit for PFOA or PFOS or (PFOA+PFOS) >=70 PPT

Surface Water

Five surface water samples were collected from the wetland in the southwest corner of the property. This low-lying area is downgradient of the main accumulation area and is contained on the property with no outlet. This pond/wetland located area has not classified by any State or Federal agency. The closest classified water body is the Indian River west of the Site, but there is no direct connection between the Site and the river. Field staff did not observe any fish during the sampling event. The water is generally 1-2 feet in deep and it is somewhat ephemeral and shrinks

significantly during the warmer months of the year. There was no evidence of people using the wetland for any purpose.

Comparing the results to the Type W Wildlife Protection (fresh waters) standards, there was one exceedance for pesticides (4,4'-DDD). As a comparison, the standard for drinking water (Class A) for 4,4' DDD is 0.2(µg/L).

Based on the findings of the RI, there is no site-related surface water contamination of concern. Therefore, no remedial alternatives need to be evaluated for surface water.

Table 2 – Summary of Detections in Surface Water

Pesticides					
Analyte	**Concentration Range (µg/L)**	**Type A Value* (µg/L)**	**Type W Value* (µg/L)**	**Frequency Exceeding Type A Value**	**Frequency Exceeding Type W Value**
4,4'-DDD	0.0092 - 0.013	0.2	0.000011(a)	0/5	2/5

Notes:
µg/L - micrograms per liter
* NYSDEC Ambient Water Quality Standards and Guidance Values.
** Values are calculated based on hardness; value assumes hardness is less than or equal to 75,000 ug/L.
A – A source of water supply for drinking
W - Wildlife Protection (fresh waters)
(a) Applies to the sum of 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT.

Sediments

Eight sediment samples were collected from the wetland in the southwest corner of the property. This low-lying area is downgradient of the main accumulation area. The only exceedances of the Class C SGVs were for metals (arsenic, chromium, and lead), all of which were in KTZ-SD-3. The other sediment samples surrounding this location had no exceedances. Refer to Table 3.

Based on the findings of the RI, there is some site-related metal contamination in the vicinity of SD-3. Because three subsequent samples surrounding SD-3 did not exhibit any contamination exceeding SCGs, it is considered to be localized and therefore will not be addressed as part of the remedy. Additionally, disturbing the wetland to remediate this small area may do more environmental harm than benefit.

Table 3 – Summary of Detections in Sediment

Metals			
Analyte	**Concentration Range (ppm)**	**Class C SGV* (ppm)**	**Frequency Exceeding Class C SGV**
Arsenic	4.5 - 67	> 33	1/8
Chromium	19.1 - 248	> 110	1/8
Lead	14.1 - 235	> 130	1/8

Notes:
ppm - milligrams per kilogram (dry weight) or parts per million (ppm)
*Class C SGV - Freshwater Sediment Guidance Values from NYSDEC "Screening and Assessment of Contaminated Sediment", Table 5, June 24, 2014.

Soil

Surface Soil

Eighty (80) surface soil samples were collected from a depth of 0 to 12 inches to assess direct human exposure. These samples were taken during multiple phases of investigation including test pits, surface soil sampling, direct push sampling, and a focused PCB-delineation boring program. Refer to Table 4.

Compared to Unrestricted Use SCOs, there were seven VOC exceedances, six SVOC exceedances, eleven metals exceedances, six pesticide exceedances, and total PCB exceedances. Chromium exceeded the unrestricted SCO in all samples taken. Cadmium, lead, arsenic and mercury also frequently exceeded their unrestricted SCOs.

However, compared to Commercial Use SCOs, there were no VOC exceedances, four SVOC exceedances, seven metals exceedances, no pesticide exceedances, and total PCB exceedances. The majority of SVOC, metal and PCB exceedances are co-located within the main waste accumulation area, which encompasses the former incinerator building and debris piles. For example, sample KTZ-TP-17-1 (sample in test pit #17 at a depth of 1-foot bgs) had a PCB concentration of 6,600 ppm and also exceeded Commercial Use SCOs for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene, arsenic, barium, cadmium, and lead.

Four locations outside of the main waste accumulation area have PCB exceedences greater than 1ppm. These four areas will be addressed in the proposed remedy.

Total PCB concentrations were above the unrestricted use SCO in 52 of 80 samples, and above the commercial use SCOs in 40 of 80 samples.

Table 4 – Summary of Detections in Surface Soil

VOCs					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
1,4-Dichlorobenzene	0.0035 - 6.0	1.8	1/27	130	0/27
Acetone	0.0071 - 0.38	0.05	4/27	500	0/27
Benzene	0.0061 - 0.5	0.06	1/27	44	0/27
Chlorobenzene	0.0043 - 8.2	1.1	1/27	500	0/27
Ethylbenzene	0.019 - 3.6	1	1/27	390	0/27
Methylene chloride	ND - 0.075	0.05	1/27	500	0/27
Xylenes, Total	0.005 - 23	0.26	1/27	500	0/27
SVOCs					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
Benzo(a)anthracene	0.022 - 7.9	1	2/46	5.6	1/46
Benzo(a)pyrene	0.14 - 19	1	1/46	1	1/46
Benzo(b)fluoranthene	0.11 - 21	1	2/46	5.6	1/46
Benzo(k)fluoranthene	0.48 - 0.89	0.8	1/46	56	0/46
Chrysene	0.29 - 8.6	1	2/46	56	0/46
Indeno(1,2,3-cd)pyrene	0.2 - 23	0.5	4/46	5.6	2/46
Metals					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
Arsenic	2.1 - 48	13	10/49	16	9/49
Barium	14 - 3,700	350	4/49	400	4/49
Cadmium	0.063 - 159	2.5	19/49	9.3	11/49
Chromium (total)	9 - 998	1	49/49	400	1/49
Copper	16.4 - 969	50	2/7	270	1/7
Lead	10.9 - 7,340	63	17/49	1000	10/49
Nickel	20.3 - 37.9	30	2/7	310	0/7
Selenium	0.51 - 5.2	3.9	1/49	1500	0/49
Silver	0.52 - 14.9	2	9/49	1500	0/49
Zinc	68.8 - 1,270	109	1/7	10,000	0/7
Mercury	0.011 - 3.9	0.18	10/49	2.8	1/49
Pesticides					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
4,4'-DDD	ND - 0.69	0.0033	1/9	92	0/9
4,4'-DDE	0.079 - 0.54	0.0033	2/9	62	0/9
4,4'-DDT	0.11 - 0.19	0.0033	2/9	47	0/9
Aldrin	ND - 0.012	0.005	1/9	0.68	0/9
delta-BHC	0.00094 - 0.22	0.04	1/9	500	0/9
Dieldrin	0.044 - 0.40	0.005	3/9	1	0/9

Table 4 – Summary of Detections in Surface Soil (con't)

PCBs					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
Total PCBs	0.14 - 6,600	0.1	52/80	1	40/80

Notes:
ppm - milligrams per kilogram (dry weight) or parts per million (ppm)
ND - Analyte was not detected above the laboratory quantitation limit.
VOCs - Volatile Organic Compounds
PCBs - Polychlorinated Biphenyls
SVOCs - Semivolatile Organic Compounds
SCO - Soil Cleanup Objective
UUSCO - Unrestricted Use Soil Cleanup Objective
CUSCO - Commercial Use Soil Cleanup Objective

Subsurface Soil

One hundred sixty-eight (168) subsurface soil samples were collected from a depth of 1 to 25 feet bgs. These samples were taken during multiple phases of investigation including test pits, direct push sampling, and a focused PCB-delineation boring program.

Compared to Unrestricted Use SCOs, there were seven VOC exceedances, five SVOC exceedances, twelve metals exceedances, four pesticide exceedances, and total PCB exceedances. As with surface soils, Chromium exceeded the unrestricted SCO in all samples taken. Acetone, cadmium, lead, and mercury also frequently exceeded their unrestricted SCOs.

However, when compared to Commercial Use SCOs, there were no VOC exceedances, one (1) SVOC exceedance, eight (8) metals exceedances, no pesticide exceedances, and total PCB exceedances. As observed in the surface soils, the majority of SVOC, metal, and PCB exceedances are co-located within the main waste accumulation area, which encompasses the former incinerator building and debris piles. For example, sample KTZ-SB-12-13.5 (sample in soil boring #12 at a depth of 13.5 feet bgs) had a PCB concentration of 13.1 ppm and also exceeded Commercial Use SCOs for arsenic, cadmium, chromium and lead.

Total PCBs were above the unrestricted use SCO in 84 of 168 samples, and above the commercial use SCOs in 22 of 168 samples.

Table 5 – Summary of Detections in Subsurface Soil

VOCs					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
1,4-Dichlorobenzene	0.0026 - 11	1.8	3/25	130	0/25
Acetone	0.0046 - 0.12	0.05	6/25	500	0/25
Benzene	0.00048 - 0.10	0.06	1/25	44	0/25
Chlorobenzene	0.0024 - 47	1.1	2/25	500	0/25
Ethylbenzene	0.0019 - 2.3	1	1/25	390	0/25
Methylene chloride	0.0034 - 0.38	0.05	1/25	500	0/25
Xylenes, Total	0.0015 - 14	0.26	2/25	500	0/25
SVOCs					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
Benzo(a)anthracene	ND - 1.5	1	1/25	5.6	0/25
Benzo(a)pyrene	0.10 - 3.0	1	1/25	1	1/25
Benzo(b)fluoranthene	0.10 - 3.4	1	1/25	5.6	0/25
Chrysene	ND - 1.5	1	1/25	56	0/25
Indeno(1,2,3-cd)pyrene	2.5 - 3.5	0.5	2/25	5.6	0/25
Metals					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
Arsenic	4.6 - 28	13	3/40	16	2/40
Barium	33.9 - 567	350	1/40	400	1/40
Cadmium	0.064 - 67.7	2.5	7/40	9.3	7/40
Chromium (total)	9.8 - 681	1	40/40	400	1/40
Copper	20.4 - 9,900	50	5/23	270	2/23
Lead	9.7 - 8,190	63	10/40	1000	7/40
Manganese	389 - 2,510	1,600	1/23	10,000	0/23
Nickel	19.5 - 357	30	17/23	310	1/23
Selenium	0.47 - 18.9	3.9	4/40	1500	0/40
Silver	0.23 - 13.3	2	5/40	1500	0/40
Zinc	59.2 - 10,900	109	6/23	10,000	1/23
Mercury	0.01 - 0.46	0.18	6/40	2.8	0/40
Pesticides					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Commercial Use SCO (ppm)**	**Frequency Exceeding CUSCO**
4,4'-DDE	ND - 0.14	0.0033	1/9	62	0/9
4,4'-DDT	ND - 0.23	0.0033	1/9	47	0/9
delta-BHC	ND - 0.39	0.04	1/9	500	0/9
Endrin	ND - 0.027	0.014	1/9	89	0/9
PCBs					
Analyte	**Concentration Range (ppm)**	**Unrestricted Use SCO (ppm)**	**Frequency Exceeding UUSCO**	**Soil Cleanup Level[1] (ppm)**	**Frequency Exceeding Soil Cleanup Level**
Total PCBs	0.06 - 3,000	0.1	84/168	10	22/168

Notes:
ppm - milligrams per kilogram (dry weight) or parts per million (ppm)
ND - Analyte was not detected above the laboratory quantitation limit.
VOCs - Volatile Organic Compounds
SVOCs - Semivolatile Organic Compounds
PCBs - Polychlorinated Biphenyls
SCO - Soil Cleanup Objective

UUSCO - Unrestricted Use Soil Cleanup Objective
CUSCO - Commercial Use Soil Cleanup Objective
[1] In accordance with paragraph V.I.1 of NYSDEC CP-51/Soil Cleanup Guidance, "[a]n acceptable presumptive remedy for soil where neither the unrestricted SCOs nor the ESCOs are applied in the remedial program may include a soil cleanup level for PCBs of 1 ppm in the surface soils and 10 ppm in subsurface soils."

In general, VOC and SVOC impacts were observed to be in the upper two (2) feet of soil, although there were a few low-level exceedances of Unrestricted Use SCOs at depths up to 6 feet bgs. These findings indicate that VOCs and SVOCs are not primary contaminants of concern in soil.

Pesticides were generally not detected at elevated concentrations in soil. Only one sample location had detections above Unrestricted Use SCOs. There were no detections above Commercial Use SCOs. These findings indicate that pesticides are not primary contaminants of concern in soil.
There were several metals exceeding both the Unrestricted and Commercial Use SCOs. The elevated metal concentrations are consistent with the historical site use. For the purposes of the site-specific Feasibility Study, it was estimated that approximately 15% of soil transported off-Site for disposal may be characterized as Resource Conservation and Recovery Act (RCRA) hazardous waste, exhibiting the characteristic of toxicity. Because these soils are co-located with PCB contamination they will be removed as part of the selected remedy.

As indicated in Tables 4 and 5, concentrations of PCBs detected on-site ranged from ND to 6,600 ppm. The depth of contamination is limited to approximately 0 to 12 feet deep. The distribution pattern is consistent with the historical site use. Figures 3 through 7 present the nature and extent of PCB soil contamination.

Based on the findings of the RI, the disposal of hazardous waste has resulted in the contamination of soil. The primary contaminants of concern at the site to be addressed by the remedy selection process are PCBs.

Exhibit B

Description of Remedial Activities

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 Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

Alternative 2: Removal of Soil with PCBs ≥ 50 ppm and Consolidation and Covering of Soil with PCBs >1 ppm with Site Management

This alternative includes excavation and off-site disposal of all soil contamination containing PCBs above 50 ppm, consolidation of remaining on-site soils, implementation of an institutional control in the form of an environmental easement, and a site management plan preventing exposure to contamination remaining at the site. The Federal Toxic Substance Control Act **(**TSCA) dictates that in Low Occupancy Areas PCBs may remain to 50 ppm when access is restricted by fencing and warning signs are provided. Approximately 14,100 cubic yards of soil would be excavated from depths up to 19 feet below ground surface (bgs) over an area of approximately 63,750 square feet. Soil containing PCBs at concentrations equal to or greater than 50 ppm, estimated to be approximately 3,600 cubic yards, would be segregated and transported off-site to disposal facilities permitted to accept such waste. Excavated soil which does not contain concentrations of PCBs equal to or greater than 50 ppm, estimated to be approximately 10,500 cubic yards, would be placed into an unlined on-site containment cell between approximately 1 and 8 feet bgs (above the water table, estimated to be present at 12 feet bgs), over an area of approximately 40,000 square feet.

A soil cover would be placed over the containment cell. Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

Alternative 2 requires the demolition of the on-site incinerator, removal and off-site disposal of scrap metal and debris, excavation and off-site disposal of soils impacted with PCBs at concentrations greater than 50 ppm, and implementation of a groundwater monitoring program. Select monitoring wells damaged during remedial actions would be replaced after backfilling and surface restoration is complete. Groundwater sampling would be performed on an annual basis for

10 years. After 10 years, the requirement for further groundwater monitoring would be re-evaluated.

The estimated present worth cost to implement the remedy is $10,750,000. The cost to construct the remedy is estimated to be $8,790,000 and the estimated average annual cost is $20,000. This remedy also includes imposition of an institutional control in the form of an environmental easement for the controlled property and development of a site management plan.

Present Worth: *$10,750,000*
Capital Cost: *$8,790,000*
Annual Costs: *$20,000*

Alternative 3: Removal of Surface Soil with PCBs >1 ppm and Subsurface Soil with PCBs > 25 ppm with Site Management

This alternative includes excavation and off-site disposal of all surface soil containing PBCs above 1 ppm and subsurface soil containing PCBs above 25 ppm, implementation of institutional controls in the form of an environmental easement, and a site management plan preventing exposure to contamination remaining on the site. Approximately 8,000 cubic yards of soil would be excavated from depths up to 10 feet bgs. Shallow excavated soil which does not contain concentrations of PCBs above 25 ppm would be stockpiled on-site for reuse as backfill.

A soil cover consisting of imported clean fill with a minimum thickness of 1 foot would be placed over the containment cell, with details described in Alternate 2 above. It is estimated that 3,750 square feet would be covered.

Alternative 3 requires the demolition of the on-site incinerator, removal and off-site disposal of scrap metal and debris, excavation and off-site disposal of soils impacted with PCBs at concentrations greater than 25 ppm, and implementation of a groundwater monitoring program. Select monitoring wells damaged during remedial actions would be replaced after backfilling and surface restoration is complete. Groundwater sampling would be performed on an annual basis for 10 years. After 10 years, the requirement for further groundwater monitoring would be re-evaluated. Land use under this alternative would be restricted to industrial use.

The estimated present worth cost to implement the remedy is $6,890,000. The cost to construct the remedy is estimated to be $5,570,000 and the estimated average annual cost is $20,000. This remedy also includes imposition of an institutional control in the form of an environmental easement for the controlled property and development of a site management plan.

Present Worth: *$6,890,000*
Capital Cost: *$5,570,000*
Annual Costs: *$20,000*

Alternative 4: Removal of Surface Soil with PCBs > 1 ppm and Subsurface Soil with PCBs > 10 ppm with Site Management

This alternative includes excavation and off-site disposal of all surface soil containing PCBs above 1 ppm and all subsurface soil containing PCBs above 10 ppm, implementation of institutional controls in the form of an environmental easement, and a site management plan preventing exposure to contamination remaining on the site. Approximately 9,400 cubic yards of soil would be removed to depths of up to 13.5 feet bgs. Shallow excavated soil which does not contain concentrations of PCBs above 10 ppm would be stockpiled on-site for reuse as backfill

Alternative 4 requires the demolition of the on-site incinerator, removal and off-site disposal of scrap metal and debris, excavation and off-site disposal of soils impacted with PCBs at concentrations greater than 10 ppm, and implementation of a groundwater monitoring program. Select monitoring wells damaged during remedial actions would be replaced after backfilling and surface restoration is complete. Groundwater sampling would be performed on an annual basis for 10 years. After 10 years, the requirement for further groundwater monitoring would be re-evaluated. Land use under this alternative would be restricted to commercial use.

The estimated present worth cost to implement the remedy is $8,310,000. The cost to construct the remedy is estimated to be $6,760,000 and the estimated average annual cost is $20,000.

Present Worth: *$8,310,000*
Capital Cost: *$6,760,000*
Annual Costs: *$20,000*

Alternative 5: Removal of Soil with PCBs > 0.1 ppm with Site Management

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and would meet the unrestricted soil cleanup objectives listed in Part 375-6.8 (a). This alternative includes excavation and off-site disposal of all waste and soil contamination above the unrestricted SCO for PCBs which is 0.1 ppm. Approximately 19,600 cubic yards of soil would be removed from depths of up to 19 feet bgs.

Alternative 5 requires the demolition of the on-site incinerator, removal and off-site disposal of scrap metal and debris, excavation and off-site disposal of soils impacted with PCBs at concentrations greater than 0.1 ppm, and implementation of a groundwater monitoring program. The need to continue the groundwater monitoring and site management will be evaluated and may cease as unnecessary if the 0.1 ppm objective is achieved.

The estimated present worth cost to implement the remedy is $17,140,000. The cost to construct the remedy is estimated to be $14,110,000 and the estimated average annual cost is $20,000.

Present Worth: *$17,140,000*
Capital Cost: *$14,110,000*
Annual Costs: *$20,000*

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Cost ($)	Total Present Worth ($)
No Action	0	0	0
Removal of Soil with PCBs ≥ 50 ppm and Consolidation and Covering of Soils with PCBs > 1 ppm with Site Management	8,790,000	20,000	10,750,000
Removal of Surface Soil with PCBs > 1 ppm and Subsurface Soil with PCBs > 25 ppm with Site Management	5,570,000	20,000	6,890,000
Removal of Surface Soil with PCBs > 1 ppm and Subsurface Soil with PCBs > 10 ppm with Site Management	6,760,000	20,000	8,310,000
Removal of Soil with PCBs > 0.1 ppm with Site Management	14,110,000	20,000	17,140,000

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 4, Removal of Surface Soil with PCBs > 1 ppm and Subsurface Soil with PCBs > 10 ppm with Site Management, as the remedy for this site. Alternative 4 achieves the remediation goals for the site by eliminating any exposure of soil contamination on site above the site-specific commercial use SCGs and restricting the use of the site to commercial through an environmental easement. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 8.

Basis for Selection

Alternative 4, Removal of Surface Soil with PCBs > 1 ppm and Subsurface Soil with PCBs > 10 ppm with Site Management, is the preferred remedy in that it best fits all the remedy selection criteria. The Department believes that this remedy is protective of human health and the environment, and satisfies the remediation objectives listed in Section 6.5. Alternative 4 also meets the Department's goal of green remediation by minimizing the environmental footprint of remediation, maximizing habitat value, and fostering green and healthy communities and working landscapes which balance ecological, economic, and social goals. Alternatives 2 and 5 require significantly more natural resources (backfill) and non-renewable energy (equipment operation) to implement. Alternative 3 would require approximately the same amount of resources.

Alternative 2 (Removal of Soil with PCBs ≥ 50 ppm and Consolidation and Covering of Soil with PCBs > 1 ppm with Site Management), by removing all soil contaminated above the TSCA low-occupancy criteria for the contaminants of concern above SCGs, meets the threshold criteria, but is substantially costlier than Alternative 4 and would be the most difficult to implement.

Alternative 3 (Removal of Surface Soil with PCBs >1 ppm and Subsurface Soil with PCBs > 25 ppm with Site Management), by removing all soil contaminated above the industrial use soil cleanup objectives for the contaminants of concern above SCGs, meets the threshold criteria, but does not comply with the anticipated use of the site as commercial.

Alternative 5 (Removal of Soil with PCBs > 0.1 ppm with Site Management), by removing all soil contaminated above the unrestricted use soil cleanup objectives for the contaminants of concern above SCGs, meets the threshold criteria, is substantially costlier than Alternative 4 and does not meet the Department's goal of green remediation.

Alternative 4 is being proposed because, as described below, it satisfies the threshold criteria and provides the best balance of the nine criteria. It would achieve the remediation goals for the site by removing potential exposure routes to public users.

Because Alternatives 2, 3, 4 and 5 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site. Alternatives 2, 3, 4, and 5 have short-term impacts which could easily be controlled. However, Alternatives 2 and 5 have more significant short-term impacts than Alternatives 3 and 4 due to the greater amount of earthwork

required for soil excavation, disposal, and backfill. The time needed to achieve the remediation goals is slightly longer for Alternatives 2 and 5 compared to Alternatives 3 and 4. Alternative 2 returns the site to TSCA low-occupancy use; Alternative 3 returns the site to industrial use; Alternative 4 returns the site to commercial use (the proposed future use of the site); and Alternative 5 returns the site to pre-disposal conditions. Alternatives 2, 3 and 4 require an environmental easement to limit the future land use.

The cost difference between Alternatives 2, 3, 4 and 5 are significant. The lowest cost option is Alternative 3, which is $1,420,000 less than Alternative 4. Alternatives 2 and 5 are nearly two and three times the cost of Alternative 3, respectively, due to the greater amount of earthwork required for soil excavation, disposal, and backfill.

The proposed remedy is based on the results of the RI and the evaluation of alternatives. 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.

The proposed remedy (Alternative 4) satisfies this criterion by eliminating the potential exposure to contaminated soils on-site. Alternative 1 (No Action) does not provide any protection to public health and the environment and will not be evaluated further. Alternatives 2, 3, and 5 also meet the threshold criteria

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, 4 and 5 comply with SCGs to the extent practicable. Alternative 2 complies with the TSCA low-occupancy criteria by removing all soil contaminated above the site specific soil cleanup levels and installation of a security fence. Alternative 3 complies with the industrial use soil cleanup objectives by removing all soil contaminated above the site specific soil cleanup levels. Alternative 4 complies with the commercial use soil cleanup objectives by removing all soil contaminated above the site specific soil cleanup levels. Alternative 5 complies with the unrestricted use soil cleanup objectives by removing all soil contaminated above the site specific soil cleanup levels.

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 alternative 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.

Long-term effectiveness is best accomplished by Alternative 5, through excavation and off-site disposal of all contaminated soils. Alternatives 2, 3 and 4, through excavation and off-site disposal of contaminated soils above the site-specific soil cleanup levels, a site management plan, and an environmental easement limit the potential for exposure to remaining contaminated soils.

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, through excavation of contaminated soils above the TSCA low-occupancy criteria reduces the volume of contaminants and requires institutional controls in the form of an environmental easement to control potential exposures.

Alternative 3, through excavation of contaminated soils above industrial use SCOs, reduces the volume of contaminants, and requires institutional controls in the form of an environmental easement to control potential exposures.

Alternative 4, through excavation of contaminated soils above site specific commercial SCOs, reduces the volume of contaminants, and requires institutional controls in the form of an environmental easement to control potential exposures.

Alternative 5, which achieves pre-disposal conditions, will provide some additional reduction in the volume of on-site wastes by transferring the material to an approved off-site location but with only a marginal increase in protectiveness of the remedy with a greater commitment of resources.

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 compare against the other alternatives.

Alternatives 2, 3, 4 and 5 have short-term impacts which could easily be controlled through dust control measures and community air monitoring plans. Alternative 5 would have the greatest short-term impacts due to the extent of excavation required.

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.

Alternatives 2, 3, 4 and 5 are readily implementable, however Alternative 2 would be the most difficult of the alternatives to implement due to the complicated soil excavation, segregating, and backfilling activities.

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.

The costs of the alternatives vary significantly. Alternative 3 has the lowest cost to implement of the alternatives evaluated. Alternative 4 is slightly more expensive. Alternatives 2 and 5 are significantly more expensive, due to the complicated soil excavation, segregating, and backfilling activities.

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 2 and 3 do not comply with the anticipated use of the site as commercial, and require an environmental easement.

Alternative 4 complies with the anticipated use of the site as commercial, and requires an environmental easement.

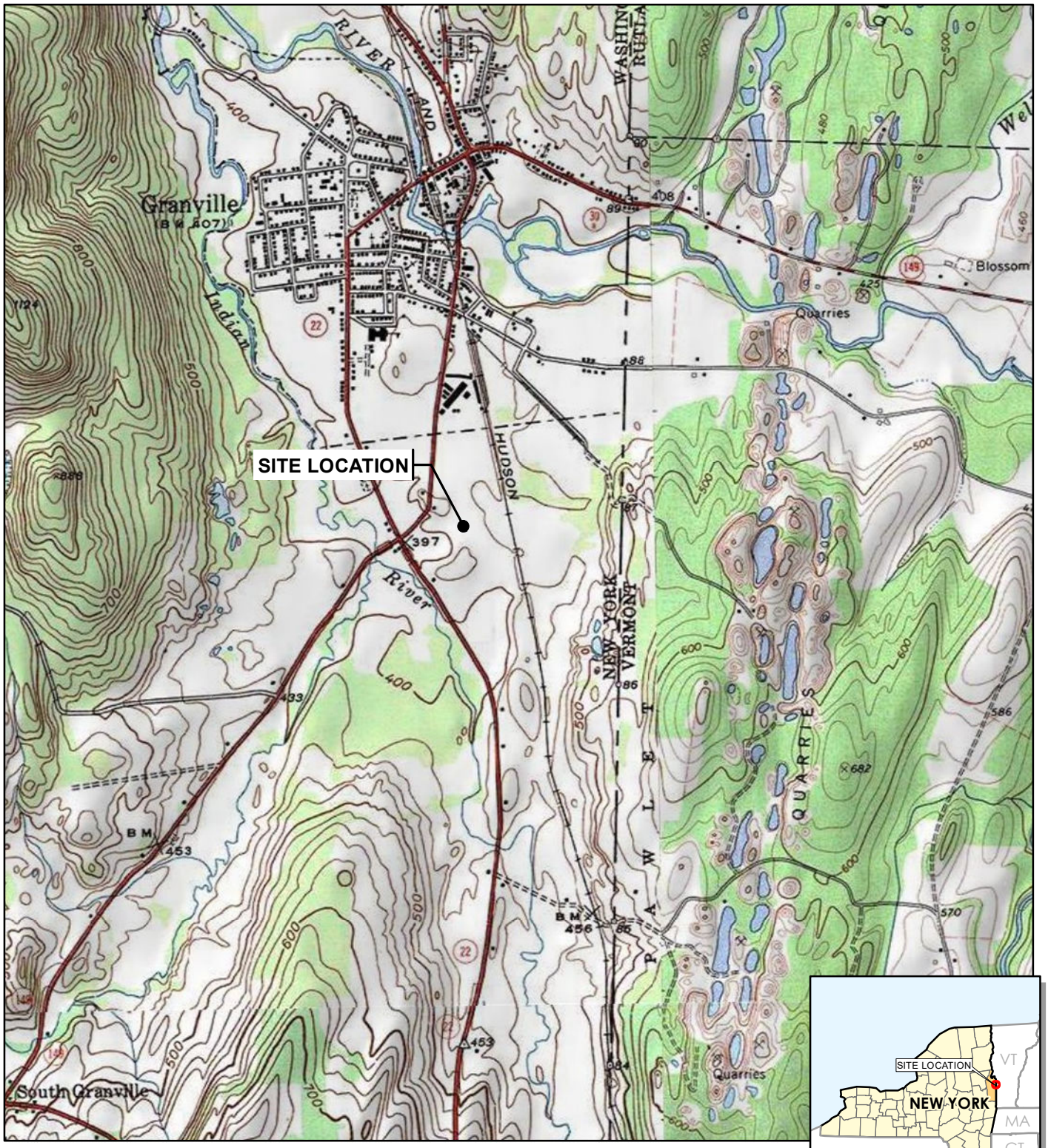
Alternative 5 removes or treats all of the contaminated soil permanently therefore does not require an environmental easement to restrict land use.

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



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

N

1 " = 2,000 '
1:24,000

0 2,000 4,000
FEET

TRC
10 Maxwell Drive
Suite 200
Clifton Park, NY 12065
Phone: 518.348.1190
TRC - GIS

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING - SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
SITE LOCATION MAP

DRAWN BY:	S. MAJOR
CHECKED BY:	M. DOWD
APPROVED BY:	J. LAROCK
DATE:	JANUARY 2019
PROJ. NO.:	240658.0004
FILE:	240658-0004-001(PRAP).mxd

FIGURE 1

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TRC - GIS

KTZ-MW-1
KTZ-MW-2
KTZ-MW-3
KTZ-MW-4
KTZ-MW-5
KTZ-MW-6
KTZ-MW-7
KTZ-MW-8

FORMER INCINERATOR BUILDING

County Route 26

State Route 22

INDIAN RIVER

LEGEND

- GROUNDWATER MONITORING WELL LOCATION
- APPROXIMATE AREA OF CONCERN
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA
- DEBRIS PILE
- DELINEATED WETLAND
- SITE BOUNDARY
- ACCESS ROAD

NOTES

1. BASE MAP IMAGERY FROM ESRI, VERMONT 2016.

N

0 150 300 Feet

1 " = 150 '

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING - SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
SITE MAP

DRAWN BY:	S. MAJOR	PROJ NO.:	240658.0004
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		**FIGURE 2**
DATE:	JANUARY 2019		

TRC
10 Maxwell Drive, Suite 200
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Phone: 518.348.1190
www.trcsolutions.com

FILE NO.: 240658-0004-002(PRAP).mxd

Coordinate System: NAD 1983 UTM Zone 18N (Meter)
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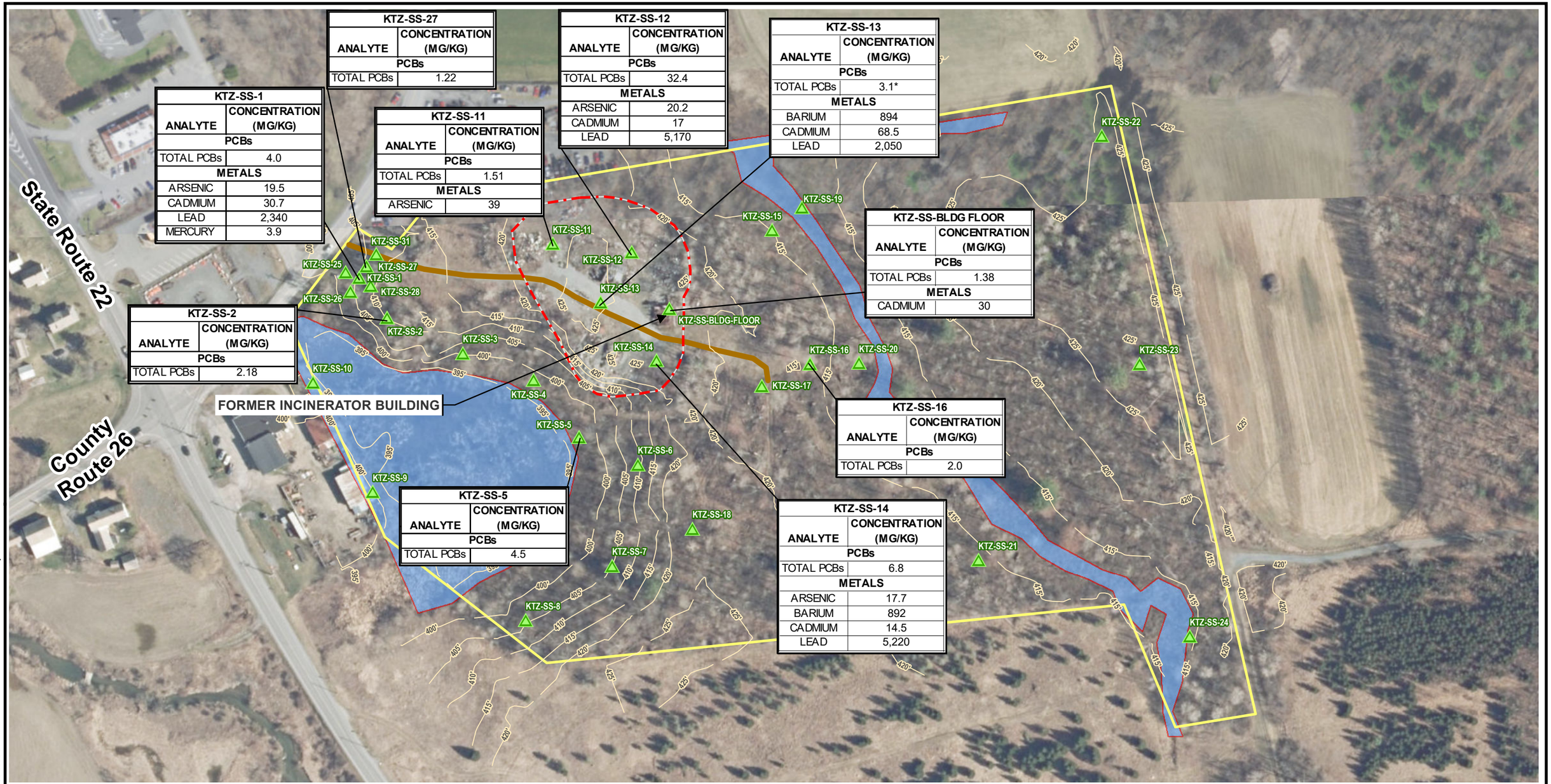

KTZ-SS-1	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	4.0
METALS	
ARSENIC	19.5
CADMIUM	30.7
LEAD	2,340
MERCURY	3.9

KTZ-SS-2	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	2.18

KTZ-SS-5	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	4.5

KTZ-SS-27	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	1.22

KTZ-SS-11	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	1.51
METALS	
ARSENIC	39

KTZ-SS-12	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	32.4
METALS	
ARSENIC	20.2
CADMIUM	17
LEAD	5,170

KTZ-SS-13	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	3.1*
METALS	
BARIUM	894
CADMIUM	68.5
LEAD	2,050

KTZ-SS-BLDG FLOOR	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	1.38
METALS	
CADMIUM	30

KTZ-SS-16	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	2.0

KTZ-SS-14	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	6.8
METALS	
ARSENIC	17.7
BARIUM	892
CADMIUM	14.5
LEAD	5,220

LEGEND

- SURFACE SOIL SAMPLING LOCATION
- GROUND SURFACE ELEVATION CONTOUR (FEET)
- ACCESS ROAD
- PROJECT AREA (APPROX)
- DELINEATED WETLANDS
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA

APPLICABLE NYSDEC SOIL CLEANUP OBJECTIVES (SCOS)		
ANALYTE	UNRESTRICTED USE SCO (MG/KG)	COMMERCIAL USE SCO (MG/KG)
PCBs		
TOTAL PCBs	0.1	1
METALS		
ARSENIC	13	16
BARIUM	350	400
CADMIUM	2.5	9.3
LEAD	63	1,000
MERCURY	0.18	2.8

NOTES

1. BASE MAP IMAGERY FROM ESRI/VERMONT, 2016.
2. ANALYTICAL DATA SHOWN EXCEEDS THE NYSDEC COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOs).
3. SURFACE SOIL SAMPLING LOCATIONS WITHOUT ANALYTICAL RESULTS HAD NO CONCENTRATIONS EXCEEDING NYSDEC COMMERCIAL USE SCOs FOR VOCs, SVOCs, PCBs OR RCRA 8 METALS.
4. MG/KG – MILLIGRAMS PER KILOGRAM
5. CORRESPONDING ANALYTICAL QUALIFIERS ARE SHOWN ON TABLES 2A THROUGH 2C INCLUDED IN THE KATZMAN RECYCLING SITE REMEDIAL INVESTIGATION REPORT.
6. *-PCBs AT LOCATION KTZ-SS-13 WERE NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT (RL), HOWEVER THE RL EXCEEDED COMMERCIAL USE SCOs.

N

0 150 300 Feet

1 " = 150 '

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING, SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
SURFACE SOIL SAMPLING LOCATION MAP & SELECT ANALYTICAL RESULTS APRIL 2016

DRAWN BY:	B. DEEGAN	PROJ NO.:	240658.0003
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		FIGURE 3
DATE:	JANUARY 2019		

TRC
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FILE NO.: 240658-0003-014.mxd

TRC - GIS

Coordinate System: NAD 1983 UTM Zone 18N (Meter)
Map Rotation: 0

Plot Date: 1/31/2019, 12:02:03 PM by SMAJOR -- LAYOUT: ANSI B (11"x17")
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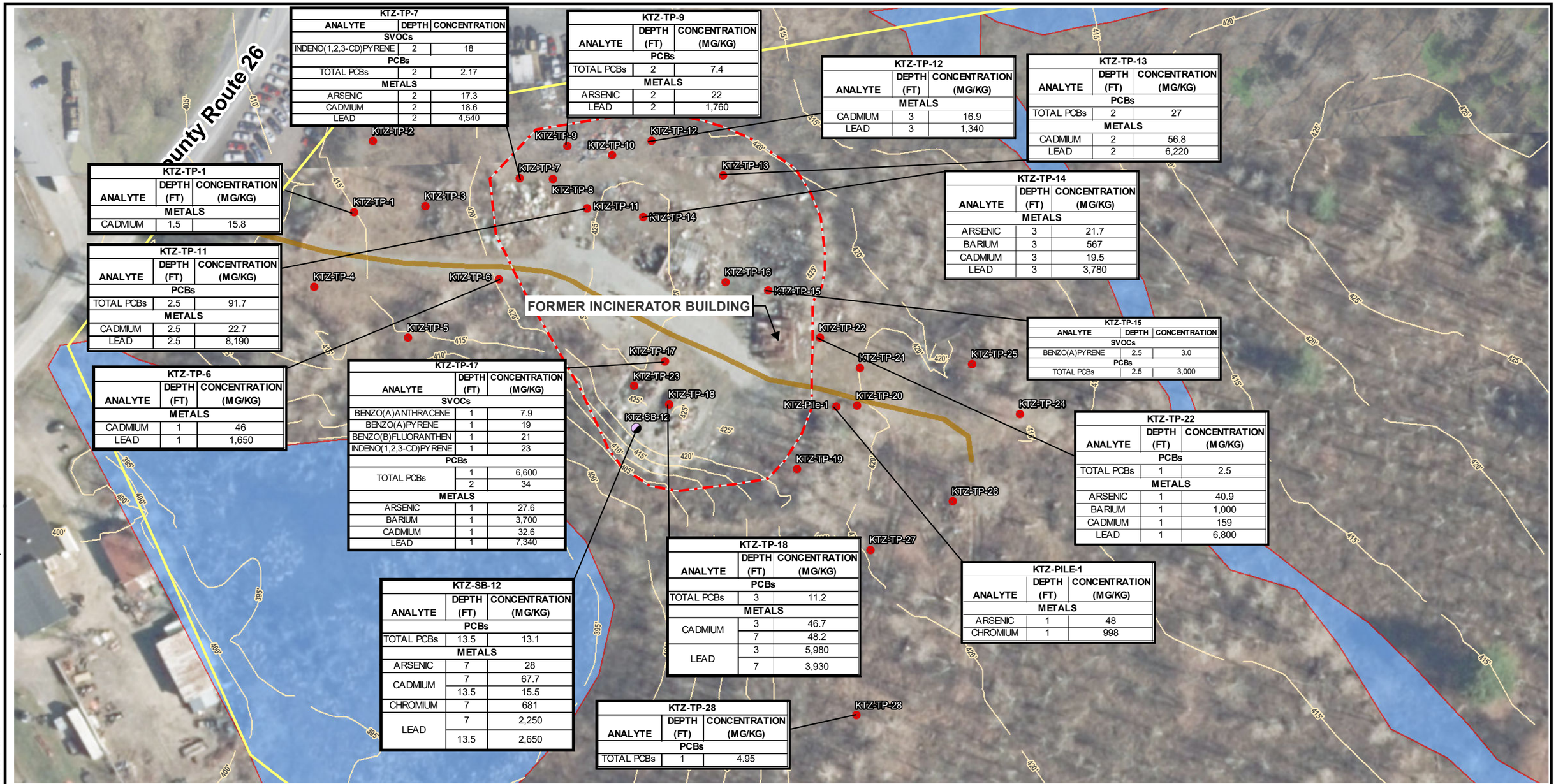

KTZ-TP-1		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
METALS		
CADMIUM	1.5	15.8

KTZ-TP-2		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
SVOCs		
INDENO(1,2,3-CD)PYRENE	2	18
PCBs		
TOTAL PCBs	2	2.17
METALS		
ARSENIC	2	17.3
CADMIUM	2	18.6
LEAD	2	4,540

KTZ-TP-9		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
PCBs		
TOTAL PCBs	2	7.4
METALS		
ARSENIC	2	22
LEAD	2	1,760

KTZ-TP-11		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
PCBs		
TOTAL PCBs	2.5	91.7
METALS		
CADMIUM	2.5	22.7
LEAD	2.5	8,190

KTZ-TP-12		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
METALS		
CADMIUM	3	16.9
LEAD	3	1,340

KTZ-TP-13		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
PCBs		
TOTAL PCBs	2	27
METALS		
CADMIUM	2	56.8
LEAD	2	6,220

KTZ-TP-14		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
METALS		
ARSENIC	3	21.7
BARIUM	3	567
CADMIUM	3	19.5
LEAD	3	3,780

KTZ-TP-6		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
METALS		
CADMIUM	1	46
LEAD	1	1,650

KTZ-TP-17		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
SVOCs		
BENZO(A)ANTHRACENE	1	7.9
BENZO(A)PYRENE	1	19
BENZO(B)FLUORANTHEN	1	21
INDENO(1,2,3-CD)PYRENE	1	23
PCBs		
TOTAL PCBs	1	6,600
	2	34
METALS		
ARSENIC	1	27.6
BARIUM	1	3,700
CADMIUM	1	32.6
LEAD	1	7,340

KTZ-TP-15		
ANALYTE	DEPTH	CONCENTRATION
SVOCs		
BENZO(A)PYRENE	2.5	3.0
PCBs		
TOTAL PCBs	2.5	3,000

KTZ-TP-22		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
PCBs		
TOTAL PCBs	1	2.5
METALS		
ARSENIC	1	40.9
BARIUM	1	1,000
CADMIUM	1	159
LEAD	1	6,800

KTZ-SB-12		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
PCBs		
TOTAL PCBs	13.5	13.1
METALS		
ARSENIC	7	28
CADMIUM	7	67.7
	13.5	15.5
CHROMIUM	7	681
LEAD	7	2,250
	13.5	2,650

KTZ-TP-18		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
PCBs		
TOTAL PCBs	3	11.2
METALS		
CADMIUM	3	46.7
	7	48.2
LEAD	3	5,980
	7	3,930

KTZ-PILE-1		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
METALS		
ARSENIC	1	48
CHROMIUM	1	998

KTZ-TP-28		
ANALYTE	DEPTH (FT)	CONCENTRATION (MG/KG)
PCBs		
TOTAL PCBs	1	4.95

LEGEND

- DIRECT PUSH SOIL SAMPLING LOCATION
- TEST PIT SOIL SAMPLING LOCATION
- ACCESS ROAD
- GROUND SURFACE ELEVATION CONTOUR
- PROJECT AREA
- DELINEATED WETLAND
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA

APPLICABLE NYSDEC SOIL CLEANUP OBJECTIVES (SCOs)		
ANALYTE	UNRESTRICTED USE SCO (MG/KG)	COMMERCIAL USE SCO (MG/KG)
SVOCs		
BENZO(A)PYRENE	1	1
BENZO(A)ANTHRACENE	1	5.6
BENZO(B)FLUORANTHENE	1	5.6
INDENO(1,2,3-CD)PYRENE	0.5	5.6
PCBs		
TOTAL PCBs	0.1	1/10
METALS		
ARSENIC	13	16
BARIUM	350	400
CADMIUM	2.5	9.3
CHROMIUM	1	400
LEAD	63	1,000

NOTES

1. BASE MAP IMAGERY FROM ESRI/VERMONT, 2016.
2. ANALYTICAL DATA SHOWN EXCEEDS NYSDEC COMMERCIAL USE SOIL CLEANUP OBJECTIVES (SCOs).
3. AT TEST PIT LOCATIONS WITHOUT ANALYTICAL RESULTS, NO CONCENTRATIONS EXCEED COMMERCIAL USE SCO, FOR VOCs, SVOCs, PCBs, OR RCRA 8 METALS WITH THE EXCEPTION OF KTZ-TP-2, KTZ-TP-4, KTZ-TP-8, KTZ-TP-10, AND KTZ-TP-20, SINCE NO SAMPLES WERE COLLECTED AT THESE LOCATIONS.
4. NOTE THAT SOIL SAMPLES KTZ-TP-14 (2') AND KTZ-TP-18 (3') WERE ANALYZED FOR HERBICIDES AND PESTICIDES.
5. MG/KG - MILLIGRAM PER KILOGRAM
6. FT – FEET
7. CORRESPONDING ANALYTICAL QUALIFIERS ARE SHOWN ON TABLES 1A THROUGH 1C INCLUDED IN THE KATZMAN RECYCLING SITE REMEDIAL INVESTIGATION REPORT.
8. THE NYSDEC COMMERCIAL USE SCO FOR PCBs IS 1 MG/KG FOR SURFACE SOILS, 10 MG/KG FOR SOILS AT DEPTH.

N

0 40 80 Feet

1 " = 80 '

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING, SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
TEST PIT AND DIRECT PUSH SOIL SAMPLING ANALYTICAL SUMMARY & SELECT ANALYTICAL RESULTS
JANUARY AND JULY 2016

DRAWN BY:	B. DEEGAN	PROJ NO.:	240658.0003
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		
DATE:	JANUARY 2019		

FIGURE 4

TRC
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FILE NO.: 240658-0003-016.mxd

TRC - GIS

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Map Rotation: 0

Plot Date: 1/31/2019, 11:17:38 AM by SMAJOR -- LAYOUT: ANSI B(11"x17")
Path: S:\1-PROJECTS\NYSDEC\240658_Katzman\240658-0004-003(PRAP).mxd

KTZ-SS-27	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	1.22

KTZ-SS-1	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	4.0

KTZ-SS-2	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	2.18

KTZ-SS-5	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	4.5

KTZ-SS-16	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	2.0

KTZ-TP-28	
ANALYTE	CONCENTRATION (MG/KG)
PCBs	
TOTAL PCBs	4.95

FORMER INCINERATOR BUILDING

County Road

State Route 22

LEGEND

- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT - NO RECOVERY
- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT
- SOIL BORING LOCATION - JULY 2016 SAMPLING EVENT
- SURFACE SOIL SAMPLING LOCATION
- TEST PIT SOIL SAMPLING LOCATION
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA
- ACCESS ROAD
- GROUND SURFACE ELEVATION CONTOUR (FEET)
- APPROXIMATE AREA OF PCB CONCENTRATIONS THAT EXCEED COMMERCIAL USE SCO (1.0 MG/KG)
- SAMPLE GRID
- SITE BOUNDARY
- DELINEATED WETLAND

NOTES

1. BASE MAP IMAGERY FROM ESRI.VERMONT, 2016.
2. AREAS THAT ARE NOT SHADED DID NOT EXHIBIT PCB CONCENTRATIONS GREATER THAN THE COMMERCIAL USE SOIL CLEANUP OBJECTIVE (SCO), WITH THE EXCEPTION OF SAMPLES WHERE THERE WAS NO RECOVERY AS IDENTIFIED.
3. MG/KG – MILLIGRAMS PER KILOGRAM
4. ANALYTICAL RESULTS SHOWN EXCEED NYSDEC COMMERCIAL USE SCO FOR PCBs (1.0 MG/KG)
5. CORRESPONDING ANALYTICAL DATA AND ASSOCIATED QUALIFIERS ARE SHOWN ON TABLES 1C.2C.5C, AND 7 INCLUDED IN THE KATZMAN RECYCLING SITE REMEDIAL INVESTIGATION.
6. ALL SAMPLING LOCATIONS SHOWN ON THIS FIGURE WERE SAMPLED WITHIN THE 0-2' BGS INTERVAL.

N

0 100 200 Feet

1 " = 100 '

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING, SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
PCBs IN SOIL @ 0-2' BGS
NOVEMBER 2016

DRAWN BY:	S. MAJOR	PROJ NO.:	240658.0003
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		
DATE:	JANUARY 2019		

FIGURE 5

TRC
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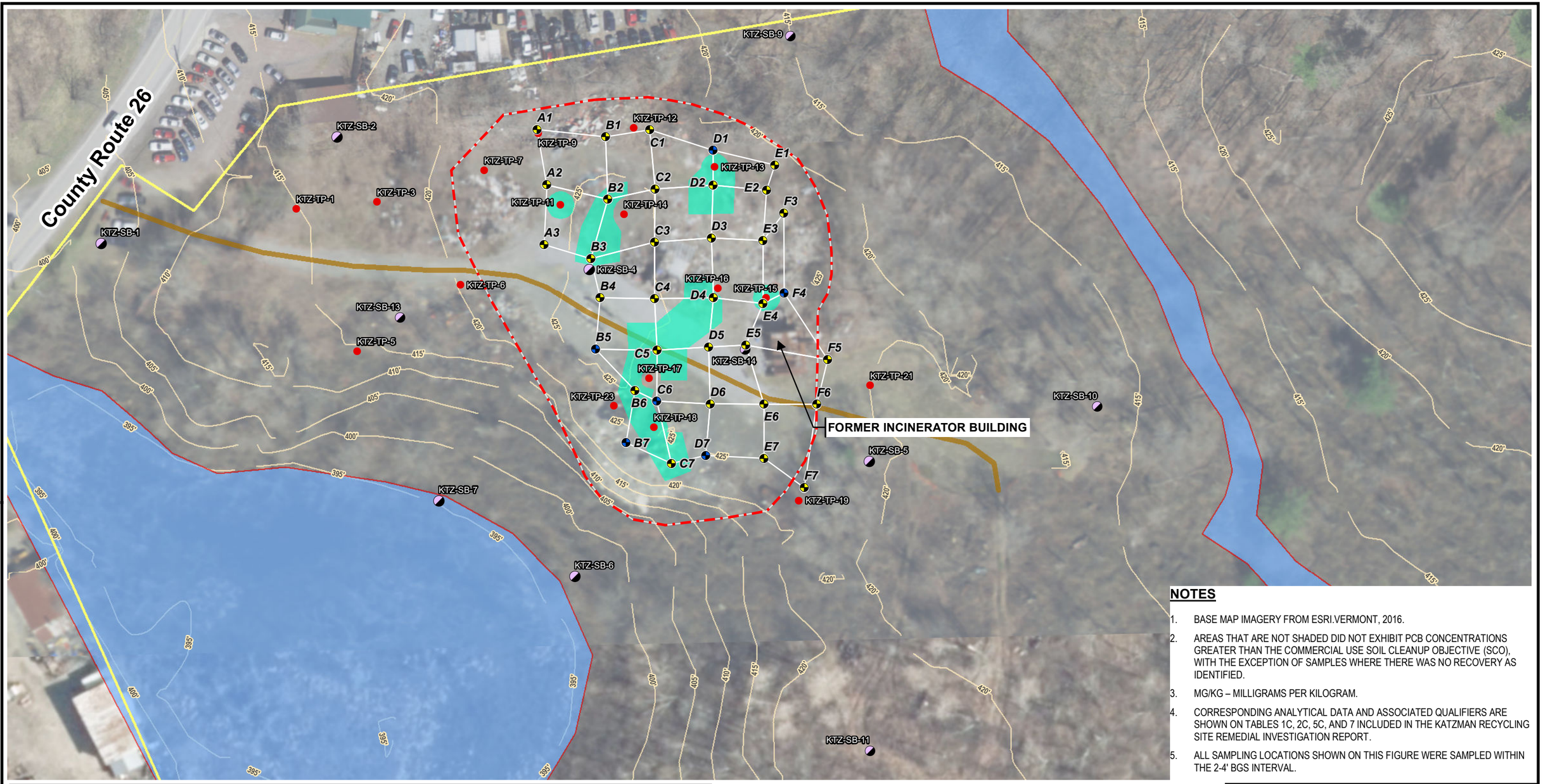

NOTES

1. BASE MAP IMAGERY FROM ESRI.VERMONT, 2016.
2. AREAS THAT ARE NOT SHADED DID NOT EXHIBIT PCB CONCENTRATIONS GREATER THAN THE COMMERCIAL USE SOIL CLEANUP OBJECTIVE (SCO), WITH THE EXCEPTION OF SAMPLES WHERE THERE WAS NO RECOVERY AS IDENTIFIED.
3. MG/KG – MILLIGRAMS PER KILOGRAM.
4. CORRESPONDING ANALYTICAL DATA AND ASSOCIATED QUALIFIERS ARE SHOWN ON TABLES 1C, 2C, 5C, AND 7 INCLUDED IN THE KATZMAN RECYCLING SITE REMEDIAL INVESTIGATION REPORT.
5. ALL SAMPLING LOCATIONS SHOWN ON THIS FIGURE WERE SAMPLED WITHIN THE 2-4' BGS INTERVAL.

LEGEND

- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT - NO RECOVERY
- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT
- SOIL BORING LOCATION - JULY 2016 SAMPLING
- TEST PIT SOIL SAMPLING LOCATION
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA
- ACCESS ROAD
- GROUND SURFACE ELEVATION CONTOUR (FEET)
- APPROXIMATE AREA OF PCB CONCENTRATIONS THAT EXCEED COMMERICAL USE SCO (10.0 MG/KG) FOR SOILS >1' BGS
- SAMPLE GRID
- SITE BOUNDARY
- DELINEATED WETLAND

N

0 70 140 Feet

1 " = 70 '

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING, SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
PCBs IN SOIL @ 2-4' BGS
NOVEMBER 2016

DRAWN BY:	S. MAJOR	PROJ NO.:	240658.0003
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		**FIGURE 6**
DATE:	JANUARY 2019		

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FILE NO.: 240658-0004-004(PRAP).mxd

TRC - GIS
Coordinate System: NAD 1983 UTM Zone 18N (Meter)
Map Rotation: 0
Plot Date: 1/31/2019, 11:25:04 AM by SMAJOR -- LAYOUT: ANSI B(11"x17")
Path: S:\1-PROJECTS\NYSDEC\240658_Katzman\240658-0004-004(PRAP).mxd

TRC - GIS

Coordinate System: NAD 1983 UTM Zone 18N (Meter)
Map Rotation: 0

Plot Date: 1/31/2019, 11:31:54 AM by SMAJOR -- LAYOUT: ANSI B(11"x17")
Path: S:\1-PROJECTS\NYSDEC\240658_Katzman\240658-0004-005(PRAP).mxd

County Route 26

KTZ-SB-9
KTZ-SB-3
KTZ-TP-12
KTZ-TP-9
KTZ-TP-7
KTZ-TP-1
KTZ-TP-13
KTZ-SB-4
KTZ-SB-13
KTZ-SB-14
KTZ-TP-21
KTZ-SB-10
KTZ-TP-23
KTZ-TP-18
KTZ-SB-5
KTZ-SB-7
KTZ-SB-8
KTZ-SB-11

A1 B1 C1 D1 E1
A2 B2 C2 D2 E2 F3
A3 B3 C3 D3 E3
B4 C4 D4 E4 F4
B5 C5 D5 E5 F5
B6 C6 D6 E6 F6
B7 C7 D7 E7 F7

FORMER INCINERATOR BUILDING

NOTES

1. BASE MAP IMAGERY FROM ESRI.VERMONT, 2016.
2. AREAS THAT ARE NOT SHADED DID NOT EXHIBIT PCB CONCENTRATIONS GREATER THAN THE COMMERCIAL USE SOIL CLEANUP OBJECTIVE (SCO), WITH THE EXCEPTION OF SAMPLES WHERE THERE WAS NO RECOVERY AS IDENTIFIED.
3. MG/KG – MILLIGRAMS PER KILOGRAM
4. CORRESPONDING ANALYTICAL DATA AND ASSOCIATED QUALIFIERS ARE SHOWN ON TABLES 1C, 2C, 5C, AND 7 INCLUDED IN THE KATZMAN RECYCLING SITE REMEDIAL INVESTIGATION REPORT.
5. ALL SAMPLING LOCATIONS SHOWN ON THIS FIGURE WERE SAMPLED WITHIN THE 4-6' BGS INTERVAL.

LEGEND

- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT - NO RECOVERY
- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT
- SOIL BORING LOCATION - JULY 2016 SAMPLING EVENT
- TEST PIT SOIL SAMPLING LOCATION
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA
- ACCESS ROAD
- GROUND SURFACE ELEVATION CONTOUR (FEET)
- APPROXIMATE AREA OF PCB CONCENTRATIONS THAT EXCEED COMMERICAL USE SCO (10.0 MG/KG) FOR SOILS >1' BGS
- SAMPLE GRID
- SITE BOUNDARY
- DELINEATED WETLAND

N

0 70 140 Feet

1 " = 70 '

PROJECT:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING, SITE NO: 558035
GRANVILLE, NY 12832

TITLE:

PCBs IN SOIL @ 4-6' BGS
NOVEMBER 2016

DRAWN BY:	S. MAJOR	PROJ NO.:	240658.0003
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		
DATE:	JANUARY 2019		

FIGURE 7

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TRC - GIS

KTZ-SB-9
KTZ-SB-3
KTZ-SB-2
KTZ-SB-4
KTZ-SB-13
KTZ-SB-14
KTZ-TP-23
KTZ-TP-18
KTZ-SB-12
KTZ-SB-5
KTZ-SB-11

A1 B1 C1 D1 E1
A2 B2 C2 D2 E2 F2
A3 B3 C3 D3 E3 F3
B4 C4 D4 E4 F4
B5 C5 D5 E5 F5
B6 C6 D6 E6 F6
B7 C7 D7 E7 F7

FORMER INCINERATOR BUILDING

County Route 26

NOTES

1. BASE MAP IMAGERY FROM ESRI.VERMONT, 2016.
2. AREAS THAT ARE NOT SHADED DID NOT EXHIBIT PCB CONCENTRATIONS GREATER THAN THE COMMERCIAL USE SOIL CLEANUP OBJECTIVE (SCO), WITH THE EXCEPTION OF SAMPLES WHERE THERE WAS NO RECOVERY AS IDENTIFIED.
3. MG/KG – MILLIGRAMS PER KILOGRAM
4. CORRESPONDING ANALYTICAL DATA AND ASSOCIATED QUALIFIERS ARE SHOWN ON TABLES 1C, 2C, 5C, AND 7 INCLUDED IN THE KATZMAN RECYCLING SITE REMEDIAL INVESTIGATION REPORT.
5. ALL SAMPLING LOCATIONS SHOWN ON THIS FIGURE WERE SAMPLED WITHIN THE 6-8' BGS INTERVAL.

LEGEND

- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT-NO RECOVERY
- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT
- SOIL BORING LOCATIONS - JULY 2016 SAMPLING EVENT
- TEST PIT SOIL SAMPLING LOCATION
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA
- ACCESS ROAD
- GROUND SURFACE ELEVATION CONTOUR (FEET)
- APPROXIMATE AREA OF PCB CONCENTRATIONS THAT EXCEED COMMERICAL USE SCO (10.0 MG/KG) FOR SOILS >1' BGS
- SAMPLE GRID
- SITE BOUNDARY
- DELINEATED WETLAND

N

0 70 140 Feet

1 " = 70 '

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING, SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
PCBs IN SOIL @ 6-8' BGS
NOVEMBER 2016

DRAWN BY:	S. MAJOR	PROJ NO.:	240658.0003
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		FIGURE 8
DATE:	JANUARY 2019		

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FILE NO.: 240658-0004-006(PRAP).mxd

Coordinate System: NAD 1983 UTM Zone 18N (Meter)
Map Rotation: 0

Plot Date: 1/31/2019, 11:52:52 AM by SMAJOR -- LAYOUT: ANSI B(11"x17")
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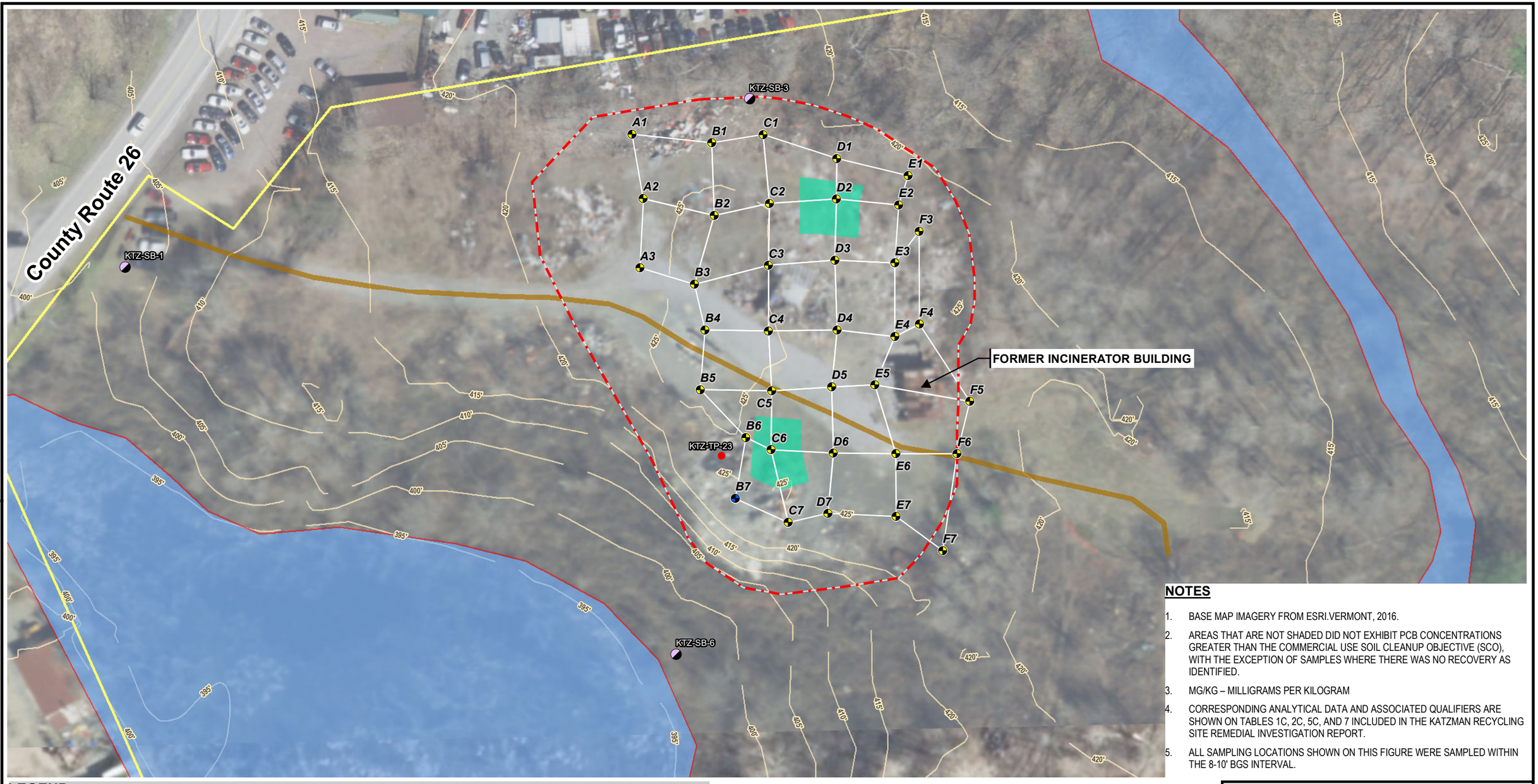

NOTES

1. BASE MAP IMAGERY FROM ESRI.VERMONT, 2016.
2. AREAS THAT ARE NOT SHADED DID NOT EXHIBIT PCB CONCENTRATIONS GREATER THAN THE COMMERCIAL USE SOIL CLEANUP OBJECTIVE (SCO), WITH THE EXCEPTION OF SAMPLES WHERE THERE WAS NO RECOVERY AS IDENTIFIED.
3. MG/KG – MILLIGRAMS PER KILOGRAM
4. CORRESPONDING ANALYTICAL DATA AND ASSOCIATED QUALIFIERS ARE SHOWN ON TABLES 1C, 2C, 5C, AND 7 INCLUDED IN THE KATZMAN RECYCLING SITE REMEDIAL INVESTIGATION REPORT.
5. ALL SAMPLING LOCATIONS SHOWN ON THIS FIGURE WERE SAMPLED WITHIN THE 8-10' BGS INTERVAL.

LEGEND

- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT-NO RECOVERY
- SOIL BORING LOCATION - NOVEMBER 2016 SAMPLING EVENT
- SOIL BORING LOCATIONS - JULY 2016 SAMPLING EVENT
- TEST PIT SOIL SAMPLING LOCATION
- APPROX. EXTENT OF MAIN WASTE ACCUMULATION AREA
- ACCESS ROAD
- GROUND SURFACE ELEVATION CONTOUR (FEET)
- APPROXIMATE AREA OF PCB CONCENTRATIONS THAT EXCEED COMMERICAL USE SCO (10.0 MG/KG) FOR SOILS >1' BGS
- SITE BOUNDARY
- SAMPLE GRID
- DELINEATED WETLAND

N

0 60 120 Feet

1 " = 60 '

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING, SITE NO: 558035
GRANVILLE, NY 12832

TITLE:
PCBs IN SOIL @ 8-10' BGS
NOVEMBER 2016

DRAWN BY:	S. MAJOR	PROJ NO.:	240658.0003
CHECKED BY:	M. DOWD		
APPROVED BY:	J. LAROCK		**FIGURE 9**
DATE:	JANUARY 2019		

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FILE NO.: 240658-0004-007(PRAP).mxd

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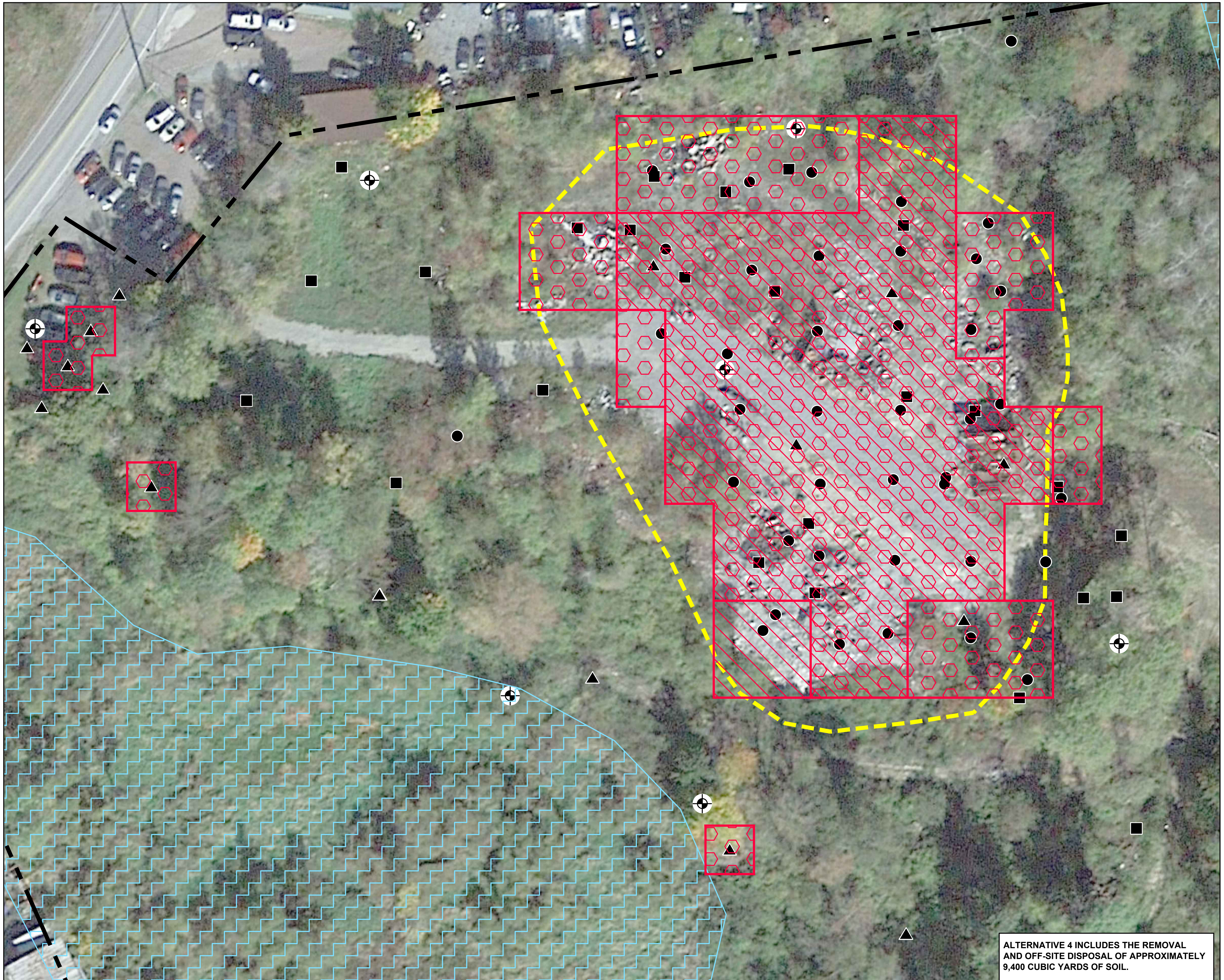
Coordinate System: NAD 1983 UTM Zone 18N (Meter)
Map Rotation: 0

TRC - GIS



LEGEND (SYMBOLS NOT TO SCALE):

- SITE BOUNDARY
- APPROXIMATE EXTENT OF WASTE ACCUMULATION AREA
- DELINEATED WETLAND
- RI SURFACE SOIL SAMPLE LOCATION
- RI SOIL BORING LOCATION
- RI TEST PIT LOCATION
- RI SOIL BORING / MONITORING WELL LOCATION
- SURFACE SOIL WITH PCBs > 1 MG/KG TO BE REMOVED
- SUBSURFACE SOIL WITH PCBs > 10 MG/KG TO BE REMOVED

NOTES:

1. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND PROPERTY BOUNDARIES ARE APPROXIMATE.
2. NOT SHOWN ARE ADDITIONAL SURFACE SOIL "HOT SPOTS" TO BE COVERED IN THE LOCATIONS OF KTZ-SS-16 AND KTZ-TP-28.
3. PCB CONCENTRATIONS DETECTED AT SURFACE SOIL "HOT SPOT" LOCATIONS ARE NOT CONTINUOUS WITH, OR ATTRIBUTED TO, THE DEBRIS PILE OBSERVED WITHIN THE WASTE ACCUMULATION AREA.
4. APPROXIMATE MAXIMUM DEPTHS OF REQUIRED SUBSURFACE SOIL REMOVAL VARY FROM 4 TO 13.5 FEET BGS.
5. DIMENSIONS OF EXCAVATION AREAS SHOWN ARE CONCEPT LEVEL FOR PURPOSES OF ESTIMATING RELATIVE EXTENTS IN COMPARISON TO OTHER REMEDIAL ALTERNATIVES FOR THE FOCUSED FEASIBILITY STUDY ONLY.

N

0 50' 100'

SCALE: 1"=50'
SHEET SIZE: 11' BY 17"

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
KATZMAN RECYCLING - SITE NO. 558035
GRANVILLE, NY 12832

TITLE:
ALTERNATIVE 4
REMOVAL OF SURFACE SOIL WITH PCBs > 1 MG/KG AND SUBSURFACE SOIL WITH PCBs > 10 MG/KG (DEPTH OF SOIL REMOVAL UP TO 13.5')

DRAWN BY:	H. DELGADO	PROJ NO.:	240658.0004
CHECKED BY:	M. DOWD	FIGURE 10	
APPROVED BY:	J. LAROCK		
DATE:	JANUARY 2019		

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FILE NO.: Figure 10 - Alt. 4 - Removal of Surf. Soil with PCBs Greater than 10 mg-kg.dwg

DRAWING NAME: I:\Projects\NYSDEC\Assignments\WA #24 - Katzman Recycling\Feasibility Study\Figures\TRC Working Drawings\Files to Others\Figure 10 - Alt. 4 - Removal of Surf. Soil with PCBs Greater than 10 mg-kg.dwg --- PLOT DATE: January 30, 2019 - 5:56PM --- LAYOUT: 11X17L

Version: 2017-10-21