CROSS-COUNTY SANITARY/KESSMAN LANDFILL

286 CORNWALL HILL ROAD, PATTERSON, PUTNAM COUNTY, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: 3-40-011

Prepared for:

New York State Department of Environmental Conservation

Division of Environmental Remediation

625 Broadway, 12th Floor Albany, New York

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Work Assignment No.: D009812-23

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date
1	2014	Corrected tax parcel numbers for site – page 1	1/23/2014
2	11/2022	Updated format (all), updated investigation, site history, RSO, and climate change components – Sections 1.0 and 4.0, Appendix E	12/13/2022

NOVEMBER 2022

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EXECUTIVE SUMMARY

The following provides a summary of the controls implemented for the Cross-County Sanitary/ Kessman Landfill Site (herein referred to as "Site" or "Property"), as well as the inspection, monitoring, maintenance, and reporting activities required by this Site Management Plan (SMP):

Site Identification, Institutional and Engineering Controls	
Site Identification:	NYSDEC Site Registry No. 3-40-011, Cross-County Sanitary/Kessman Landfill Site.
Institutional Controls:	The Property is subject to an Environmental Easement.
	Unless prior written approval by NYSDEC is first obtained, where contamination remains at the Property subject to the provisions of this SMP, there shall be no disturbance or excavation of the Property which threatens the integrity of the Engineering Controls, or which results, or may result, in an increased threat to human health or the environment as a result of exposure to soils or soil vapors.
	No person shall disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of Engineering Controls required for the remedy, including but not limited to the Engineering Controls described in this SMP, unless in each instance they first obtain a written waiver of such prohibition from NYSDEC.
	The remedy was designed to be protective for the following use: Commercial and Industrial as described in Title 6 of New York Codes, Rules and Regulations (6 NYCRR) Part 375-1.8(g)(2)(iii). Any use for purposes other than Commercial and Industrial is prohibited unless such prohibition is waived in writing by NYSDEC.
	No person shall use the groundwater underlying the Property without first obtaining permission to do so from NYSDEC. Use of the groundwater without appropriate treatment may result in an increased threat to human health or the environment.
	It is a violation of 6 NYCRR 375-1.11(b) to use the Property in a manner inconsistent with the Environmental Easement.

	The Site shall be (and/or remain) listed in the NYSDEC Inactive Hazardous Waste Disposal Site Registry.
	This SMP shall be complied with by the Grantor and the Grantor's successors and assigns.
	All Engineering Controls on the Property must be operated, maintained, and inspected at a frequency and in a manner defined in this SMP.
	Groundwater and other environmental or public health monitoring on the Property must be performed as defined in this SMP.
	Data and information pertinent to the Property must be reported at the frequency and in a manner defined in this SMP.
Engineering Controls:	Security Fencing, Landfill Cap, Leachate Collection, Monitoring Well Network, Passive Landfill Gas Vents
Inspections, Monitoring, Maintenance, and Reporting	
Inspections:	**Frequency:**
Site-Wide Inspection	Inspection conducted annually and following severe weather events.
Groundwater Monitoring Wells	
Landfill Gas Vents	
Monitoring:	
Water Level Monitoring of Monitoring Wells	Water level monitoring annually, or as directed otherwise by NYSDEC.
Groundwater Monitoring	Groundwater sample collection and analysis annually, or as directed otherwise by NYSDEC.
Surface Water Monitoring	Surface water sample collection and analysis annually.
Sediment Monitoring	Sediment sample collection and analysis annually.
Maintenance:	
Groundwater Monitoring Wells	Maintenance provided as needed, based on inspections.
Landfill Gas Vents	
Reporting:	
Site-Wide Inspection Report	Following each inspection event.
Monitoring Report	Summary memorandum following each event.
Periodic Review Report	12 months following RSO, every three years thereafter.

CERTIFICATION

I, Kevin D. Sullivan, certify that I am currently a New York State registered Professional Engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Kevin D. Sullivan, P.E.	12/14/2022	
License No. 073712	Date	Signature

1.0 INTRODUCTION

1.1 Introduction

This Site Management Plan (SMP) is a required element of the remedial program for the Cross-County Sanitary/Kessman Landfill Site (hereinafter referred to as "Site" or "Property") under the New York State Inactive Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). The Site was remediated by the NYSDEC under the New York State Superfund Program in accordance with the Record of Decision (ROD), dated November 1994. This plan has been developed to ensure that the remedy remains effective and that the potential exposures to remaining contamination are effectively mitigated.

1.1.1 General

The Site is located in the Town of Patterson, Putnam County, New York, approximately one mile south of the Village of Patterson **(Figure 1)**. The Site is approximately 10 acres and consists of approximately 7.2 acres of landfill and 2.8 acres of low-lying wetlands. The Site location and surrounding areas are shown on **Figure 1** and **Figure 2**, respectively. The boundaries of the Site are more fully described in the metes and bounds Site description that is part of the Environmental Easement, provided in **Appendix A**.

After completion of the remedial work described in the remedial design and ROD, contamination was left in place within the covered landfill, which is hereafter referred to as "remaining contamination." To ensure protection of public health and the environment, Engineering Controls (ECs) and Institutional Controls (ICs) have been incorporated into the Site remedy to control exposure to remaining contamination. An Environmental Easement granted to NYSDEC, and recorded with the Putnam County Clerk, requires compliance with this SMP and all ECs and ICs placed on the Site.

This SMP was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished. All reports associated with the Site can be viewed by contacting NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by TRC Engineers, Inc. (TRC), on behalf of NYSDEC (Work Assignment No. D009812-23 in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the ICs and ECs that are required by the ROD for the Site.

A full description of the Site and remediation chronology can be found in the various Site documents listed below, and in **Appendix A**.

- Camp, Dresser, and McKee, Inc. (CDM), *Phase I Environmental Site Assessment (Phase 1 ESA)*, Cross County Sanitary - Kessman Landfill Site, 1983

- Wehran Engineering, P.C. (Wehran), *Phase II Environmental Site Investigation (Phase II ESI)*, Cross County Sanitary - Kessman Landfill Site, 1985
- NYSDEC, *Work Plan for the Remedial Investigation/Feasibility Study*, Cross County Sanitary - Kessman Landfill Site, May 1991
- ABB Environmental Services (ABB-ES), *Remedial Investigation (RI)*, Cross County Sanitary - Kessman Landfill Site, May 1992
- ABB-ES, *Feasibility Study (FS)*, Cross County Sanitary - Kessman Landfill Site, 1994
- NYSDEC, *Record of Decision (ROD)*, Kessman / Cross County Sanitation Landfill Inactive Hazardous Waste Site, November 1994
- NYSDEC, *Operation, Maintenance and Monitoring*, Site No. 340011, March 2005
- NYSDEC, *Operation, Maintenance and Monitoring (2005 – 2007)*, Site No. 340011, November 2007
- NYSDEC, *Site Management Plan (SMP)*, Cross County Sanitation - Kessman Landfill, June 2011
- Aztech Technologies, Inc. (Aztech), *PCB Delineation Sampling*, Cross County / Kessman Sanitation Landfill Site, September 2012
- Aztech, *PCB Delineation Sampling*, Cross County / Kessman Sanitation Landfill Site, October 2012
- Aztech, *PCB Sediment Delineation Report*, Cross County / Kessman Landfill, January 2013
- NYSDEC, *SMP (Rev. 1)*, Cross County Sanitation - Kessman Landfill, January 2014
- NYSDEC, *Environmental Easement*, Site No. 340011(e), May 2014
- NYSDEC, *Environmental Easement*, Site No. 340011(e1), August 2014
- Remedial System Optimization (RSO) Report, TRC Engineers, Inc., December 2020
- Periodic Review Report (PRR), TRC Engineers, Inc., October 2022

1.1.2 Purpose

This SMP defines protocols for management of remaining contamination at the Site, after completion of remedial actions. For the convenience of the Site owners, summaries of previous environmental investigations/remedial actions have been appended to this SMP, where appropriate (**Appendix A**). The owners should refer to the original approved investigation reports for more detail, as may be needed. Site owners and potential Site developers need to prepare and obtain appropriate approvals for all future engineering designs associated with the Site. Similarly, it is also their responsibility to comply with this SMP.

This SMP provides a detailed description of procedures required to manage remaining contamination at the Site, after completion of the remedial action, including: (1) implementation

and management of all EC/ICs; (2) media monitoring; (3) operation and maintenance of the containment systems; and (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports (PRRs).

To address these needs, this SMP includes two distinct plans: (1) an Engineering and Institutional Control Plan (Section 2.0) for implementation and management of EC/ICs; and (2) a Monitoring and Inspection Plan (Section 3.0) for implementation of the Site monitoring program.

This plan also includes a description of PRRs for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the Site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement; and
- Failure to comply with this SMP is also a violation of Environmental Conservation Law (ECL), 6 New York Code of Rules and Regulations (NYCRR) Part 375 and, thereby subject to applicable penalties.

ECs have been incorporated into the Site remedy to control exposure to remaining contamination during the use of the Site to ensure protection of public health and the environment. An Environmental Easement filed by NYSDEC, and recorded with the Putnam County Clerk, requires compliance with this SMP and all ECs and ICs placed on the Site. The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the Site. This plan has been approved by NYSDEC, and compliance with this plan is required by the Environmental Easement. This SMP may only be revised with the approval of NYSDEC.

All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. Contact information for the NYSDEC project manager involved with the Site is provided in Section 2.5 of this SMP.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to NYSDEC. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shutdown of a remedial system, implementation of a Remedial System Optimization (RSO), post-remedial removal of contaminated sediment or soil, or other significant change to the Site conditions. In accordance with the Notice of Recorded Environmental Easement for the Site, NYSDEC will provide written notice of any approved changes to the SMP and append these notices to the SMP that is retained in its files.

1.2 Site Background

1.2.1 Site Location and Description

The Site is located at 286 Cornwall Hill Road, approximately one mile south of the Village of Patterson, in a residential and commercial area of Patterson, Putnam County, New York. The Site occupies two parcels (Tax Map Nos. 13-3-16 and 13-3-17) and a portion of a third parcel (Tax Map No. 13-3-14) on the Putnam County Tax Map and is zoned as R4 – Residential, according to the Putnam County eParcel GIS viewer. The Site occupies approximately 10 acres and consists of approximately 7.2 acres of landfill and 2.8 acres of low-lying wetland area. The Site is bounded by undeveloped land to the north, a commercial property to the south, residential properties and Cornwall Hill Road to the west, and the Metropolitan Transportation Authority (MTA) Metro-North Railroad and the Great Swamp, a protected wetland (NYSDEC Classification DP-22), to the east. There are several single-family residences located northwest of the Site, along Cornwall Hill Road. The Patterson Municipal Landfill and the Patterson Town Garage are southwest of the Site, and there is a maintenance and repair facility for heavy excavation equipment south of the Site. A layout of the Site is shown on **Figure 2**.

The surface elevation of the landfill is approximately 440 feet above mean sea level (AMSL), 10 to 12 feet above the surrounding ground and the original elevation of the Great Swamp. The landfill and the adjacent wetland area are relatively flat, in contrast to hills and ridges west and south of the Site, which rise to more than 550 feet AMSL.

The wetland area includes a shallow pond (approximately three to four feet deep) connected to a red maple/ash swamp which extends northward off-Site. The shallow pond is bordered by the capped landfill (west) and the railroad track ballast (east). The intermittent/seasonal connection of the pond to the Great Swamp is to the north, adjacent to the railroad. The shallow pond is surrounded by broadleaf cattails and phragmites. The phragmites dominate the shallower portions of the pond, the surrounding wetland area, and extend far off-Site to the north as an understory in the red maple/ash swamp.

1.2.2 Site History

The Site was operated as a municipal landfill by the Town of Patterson on the Kessman family property from approximately 1963 to 1972. In 1972, the landfill was sold to Cross-County Sanitation, Inc. (CCS), a private carting company which operated the Site from 1972 to 1974. Historic information provided by NYSDEC indicates unknown types and quantities of industrial and hazardous wastes were disposed of at the landfill between 1972 and 1974. In 1974, NYSDEC ordered the landfill to close and the Kessman family repossessed the property. At the time of closure, clean soil obtained from nearby locations was used to cover the landfill; however, the cover was incomplete and subsequently eroded away in several areas. The Site has been inactive since placement of the cover. There have been no reported former or current structures at the Site.

In 1983, a Phase I Environmental Site Assessment (Phase I) of the Site was conducted by Camp, Dresser, and McKee, Inc. (CDM). During the Phase I, leachate seeps on the north and east sides

of the landfill and stressed wetland vegetation were observed. The Phase I assessment also documented approximately 40 to 60 partially exposed 55-gallon drums the northern part of the landfill, adjacent to the wetland. Strong chemical odors were documented in the vicinity of the drums.

Based on the Phase I findings, a Phase II Environmental Site Investigation (Phase II) was performed by Wehran Engineering, P.C. (Wehran) in 1985. The Phase II included a magnetometer survey; sampling of surface water, groundwater, sediment, and leachate; excavation of two test pits and collection of composite soil samples; installation of four (4) groundwater monitoring wells; and collection of a groundwater sample from a nearby domestic water well. Analytical results revealed detections of volatile organic compounds (VOCs) and semi-VOCs (SVOCs) in groundwater samples and detections of polychlorinated biphenyls (PCBs) in sediment samples. Based on the results of the Phase II, the Site was classified as a Class 2 inactive hazardous waste site under the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites.

By May 1991, NYSDEC, under the State Superfund Program, initiated a Remedial Investigation/Feasibility Study (RI/FS) to address the contamination. The RI was conducted by ABB Environmental Services (ABB-ES) between December 1991 and May 1992. During the RI, Site-specific data was obtained from: (1) aerial photographs and historical records; (2) ecological inventories; (3) geophysical surveys; (4) samples of cover soil, landfill refuse, and overburden soil collected from beneath the fill areas via test pits and soil borings; (5) groundwater samples collected from existing and newly installed monitoring wells and nearby private potable wells; (6) shallow groundwater via leachate seeps, wetland surface water and sediment; (7) hydrogeologic testing; and, (8) photogrammetric survey maps. The objective of the RI was to measure the nature and distribution of Site-related contamination in soil, sediment, surface water, and groundwater and evaluate the risk for migration from the Site to sensitive receptors.

During implementation of the RI, several interim remedial measures (IRMs) were conducted at the Site. In the fall of 1993, more than 115 drums were removed from the northern portion of the landfill (adjacent to the wetland). Surrounding impacted soil was excavated following drum removal. However, when additional drums were identified, further removal was suspended, due to limited funding, and scheduled to resume in the spring of 1994.

In April 1994, IRM activities resumed, including continued removal of buried drums, excavation of impacted soil, and collection and analysis of surface water, soil, and leachate samples. Drum removal continued through June 1994. An additional 157 drums and 100 cubic yards of contaminated soil were reportedly removed and staged on-Site. In December 1994, the disposal of all staged drums and soil was completed.

In September 1994, ABB-ES prepared a FS Report to evaluate potential remedial strategies for the Site. Based on the FS Report, NYSDEC selected a remedy and published a ROD for the Site in November 1994. The NYSDEC selected alternatives are described below:

Alternative SD-4, Option A - Excavation and On-Site Disposal of Sediments

Alternative SD-4, Option A consisted of the excavation of approximately 2,600 cubic yards of contaminated sediments east of the landfill and west of the MTA Metro-North Railroad, restoration of the wetland, and environmental monitoring. This alternative included dewatering of sediments and disposal beneath the cap as described in Alternative LF-3A, described below.

Alternative LF-3A - Capping of Buried Wastes with Piping for Possible Future Leachate Collection System

Alternative LF-3A consisted of capping the wastes with a cover that complied with 6 NYCRR Part 360. This alternative included a cap approximately 7.2 acres in size, as well as continued environmental monitoring and institutional controls. Additionally, the alternative called for the installation of a leachate collection system with the capacity to accommodate additional leachate storage and transfer/leachate treatment facilities if needed, based on future remedy performance.

The remedial actions described in the ROD were performed by EPA, Inc. between August 1995 and September 1996. Once these remedial actions were complete, routine operation, maintenance, and monitoring activities were performed by O'Brien & Gere Engineers, Inc. (OBG) and Iyer Environmental Group, PLLC (IEG) from February 2002 through November 2007.

1.2.3 Geologic Conditions

According to the previous Phase I and Phase II investigations, as well as the RI, the regional geology generally consists of metamorphic bedrock overlain by glacial lacustrine, overlain by more recent organic rich marsh sediments. The bedrock underlying the region consists of Stockbridge Marble, which is a late Cambrian-lower Ordovician aged formation.

Site geology, as observed during previous test pitting activities, consists of approximately 10 to 14 feet of refuse (fill) overlying a thin layer of peat and organic soil (2 to 4-foot thickness). The organic layer is underlain by silt and fine to coarse sand (20 to 35 feet thick). The sand layer becomes finer grained towards the wetland along the eastern boundary of the Site and coarser with depth (cobbles and boulders).

According to the groundwater information presented in the November 2007 Operations, Maintenance and Monitoring (OM&M) Report prepared by IEG and submitted by OBG, both the shallow and deep groundwater at the Site flows to the east toward the wetland area. The water table is approximately 5 to 15 feet below ground surface (bgs).

1.3 Summary of Remedial Investigation Findings

The purpose of the RI conducted by ABB-ES from 1991 to 1992 was to characterize the nature and extent of Site-related contamination in soil, sediment, surface water, and groundwater and to evaluate the risk for their migration to sensitive receptors. The results of the RI are detailed in the Remedial Investigation Report, ABB-ES, dated 1994.

The RI concluded that Site-related organic compounds and inorganic constituents were detected in surface soil, refuse, marsh deposits beneath the refuse, glacial overburden underlying the marsh deposits, and bedrock. According to the RI, the Site-related organic compounds (PCBs and VOCs) had originated from four (4) drum nests identified along the eastern boundary of the landfill adjacent to the wetland. In addition, the RI identified the landfill refuse as the source of the SVOCs, pesticides, and inorganic constituents. Each of these were detected in the leachate, groundwater, sediment, and surface water. Based on their distribution, the RI concluded that Site-related compounds were migrating off-Site.

1.4 Summary of Remedial Actions

An FS was prepared for the Site in 1994 by ABB-ES to evaluate remedial alternatives. The selected remedy for the Site was sediment removal and landfill capping. The project scope was described in detail in in the project contract documents and specifications.

The following is a summary of the Remedial actions performed at the Site:

1. Leachate Management: A leachate collection system was installed at the downgradient edge of the landfill, to be used for potential future leachate collection, if necessary.
2. Landfill Gas Management: A landfill gas collection and venting system was installed below the final landfill cap. The above ground portion of the gas venting system (subject to continued inspections) included a series of vertical gas vent pipes installed along the top of the landfill cap.
3. Wetland Remediation
    a. Approximately 6,170 cubic yards of impacted sediment was excavated from the wetland along the eastern boundary of the landfill and placed and compacted within the landfill area to be capped.
    b. Upon completion of the excavation activities, samples were collected within the wetland remediation area to confirm that the remediation goal of 1.0 milligram per kilogram (mg/kg) for PCBs and 0.11 mg/kg for mercury were met. The laboratory results were reportedly below the remediation goals.
    c. Approximately 7,000 cubic yards of replacement soil, a mixture of topsoil and bark mulch, was used as backfill in the excavated wetland area. Wetland vegetation was subsequently planted within the backfilled areas.
4. Final Cover Placement: a landfill cap system was subsequently installed over the completed landfill including the following components:
    a. Grading Materials: NYSDEC allowed for common borrow fill material to be used as grading fill beneath the landfill cover. This material, as well as the excavated impacted sediment from the wetland area, was backfilled and graded to achieve the final cover slopes.

b. Non-Woven Geotextile Fabric: a continuous layer of non-woven geotextile fabric was place over the compacted and prepared grading materials layers.

c. Gas Venting Layer: a 12-inch thick sand and gravel layer was placed over the geotextile, to facilitate gas collection and transmission to the gas vents at the top of the landfill slopes.

d. Barrier Layer/Geomembrane: a 60-mil high-density polyethylene (HDPE) geomembrane was installed above the gas venting layer as the primary barrier against infiltration. The geomembrane layer was completed around the perimeter of the landfill in an anchor trench. Where the geomembrane terminates at the leachate collection system, the leachate collections system functions at the anchor trench.

e. Barrier Protection Layer: a 30-inch thick select fill layer was placed above the geomembrane.

f. Vegetative Layer: a 6-inch thick layer of screened topsoil was installed to complete the landfill cap. After placement of the topsoil layer, seed and mulch were applied.

It should be noted that the "issued for bid" drawings for the remedy specified construction of a leachate collection trench with "outlets" at 100-foot intervals, intended to allow passive drainage of collected water into the wetland. The construction of the leachate collection system (i.e., apparent buried piping) has been field-verified, but the presence of "outlets" could not be confirmed, as discussed below. Remedial activities were completed at the Site in August 1996.

1.5 Summary of Site Monitoring and Investigations

Monitoring activities undertaken following completion of the Remedial action identified elevated levels of PCBs in sediment samples collected from the wetland area. A December 8, 2008, NYSDEC internal memorandum indicated the PCB detections were "residual contamination from the Remedial action" and recommended removing PCB-impacted sediments. Investigations into the nature and extent of PCB contamination in the wetland area continued through 2018, were implemented in the four primary investigation phases/periods listed below, and are detailed in the 2020 Remedial System Optimization Report (RSO) prepared by TRC (**Appendix A**). The sediment investigation/remediation area is shown on **Figure 2**.

- Pre-2016 Investigations – These investigations, conducted between February 2002 and January 2013 by others, identified elevated concentrations of PCBs in the wetland, focused on assessment of potential transport of contamination between the leachate collection drain and the wetland (surface water), and included initial efforts to delineate the extents of contamination in the wetland sediments.

- October 2016 Sediment and Surface Water Investigations – These initial characterization and delineation investigations were conducted by TRC and focused on confirming and expanding the findings from earlier investigations.
- November 2017 Supplemental Investigations – Supplemental investigation and delineation activities, conducted by TRC, focused on delineating hot spots and defining the horizontal extent of contamination.
- November 2018 Investigation and Delineation Activities – Final delineation activities, conducted by TRC in November 2018, were intended to address remaining data gaps and investigate the potential for contamination further off-Site to the north and east via "far-field" samples.

Summaries of these investigations are provided in the subsections below. Detailed description of these investigation are included in the RSO Report (**Appendix A**).

1.5.1 Pre-2016 Investigations and Findings

Between February 2002 and November 2007, monitoring and investigation activities were completed by OBG and IEG. A key investigation completed during this time was a dye tracer study, performed between May and August 2004, and summarized in a final letter report dated November 24, 2004. The objective of the dye tracer study was to:

- Examine the potential connection between the impacts to the wetland surface water and the leachate collection system; and
- Identify any other potential migration pathways between the landfill and surface water or groundwater.

In general, the dye tracer study demonstrated communication between the wetland surface water and the leachate collection system, potentially confirming the presence of the leachate collection pipe outlets to the wetland. Quantification of the connection could not be achieved due to the relatively low concentrations of tracer detected in the leachate collection system.

1.5.2 October 2016 Investigation and Findings

In October 2016, TRC implemented an investigation focusing on the areas of impacted soil, sediment, and surface water identified in the PCB Sediment Delineation Report, Cross County / Kessman Landfill, January 2013, prepared by Aztech. The objectives of the sampling program were to collect additional data focused on the following:

- Further delineating the horizontal and vertical extents of impacted sediment; and
- Evaluating potential sources of PCB contamination in the wetland including:
    - Seepage from the landfill leachate collection system; and/or
    - Residual material not removed during the original IRM and Remedial action.

1.5.3 November 2017 Investigation and Findings

Based on the findings of the October 2016 investigations, TRC completed the first of two supplemental investigations in November 2017. The investigation consisted of the collection and analysis of 27 sediment samples and one leachate sample for PCBs. The objectives of the first supplemental investigation were to:

- Provide a better understanding of whether the landfill is a potential source of the PCBs detected in sediment at and near previous sample location CCSK-SE-2, as well in the southern portion of the wetland area;
- Further delineate the horizontal and/or vertical extent of PCB contamination in sediment for use in estimating the volume of impacted media and to support the development of potential remedial options; and
- Locate one or more of the leachate collection system "outlets" and determine if a correlation exists between the outlet locations and observed elevated concentrations of PCBs in sediment.

The results of the investigation are summarized in the 2020 RSO Report (**Appendix A**).

1.5.4 November 2018 Delineation Investigation and Findings

Between September 2018 and November 2018, TRC performed supplemental sediment and groundwater sampling, a geotechnical investigation, and a geophysical investigation centered around the leachate collection system. The objectives of this investigation were to:

- Further delineate the horizontal and vertical limits of elevated concentrations of the PCBs in sediment within and around the wetland area to support the development of potential remedial options;
- Develop a better understanding of whether the landfill leachate collection system is a potential source of the PCBs detected in sediment; and
- Gather geotechnical data to be used for remedial design, if needed.

Detailed descriptions of the activities and findings were presented in a memorandum to NYSDEC dated February 20, 2019, and are summarized in the 2020 RSO Report (**Appendix A**).

1.5.5 Wetland Resource Delineation

A resource delineation was conducted in accordance with the methodologies described in the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0; 2012). One palustrine emergent (PEM) wetland was identified at and in the vicinity of the Site during the delineation on August 1, 2019. The same wetland delineation was extended to the north and south on December 16, 2019.

The wetland delineation was documented in a memorandum titled "Resource Delineation Report" prepared by TRC and dated January 20, 2020. The completed report is included as Appendix A to the RSO Report (**Appendix A)**.

1.5.6 Fish and Wildlife Resource Impact Analysis

A Fish and Wildlife Resource Impact Analysis (FWRIA) was conducted in accordance with the guidance provided in the document "Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites", dated October 1994. The focus of this FWRIA was limited to the wetland identified and delineated as described above. The Site visit and inspection were conducted on December 16, 2019. The FWRIA findings are provided in the report entitled "Fish and Wildlife Resource Impact Analysis", which is included as Appendix B to the 2020 RSO Report (**Appendix A**). A summary of the FWRIA findings is discussed below.

Several state-listed rare animal and plant species have been previously noted within one mile of the Site. Based on recent correspondence with the New York Natural Heritage Program, nine plants, one reptile, and one mammal that are state-listed have been documented in the vicinity of the Site.

The two of the nine rare/endangered plants, spreading globeflower (*Trollius laxus*), State-listed as Rare, and fairywand (*Chamaelirium luteum*), State-listed as Endangered, were previously noted within a nearby wetland located approximately 0.25 miles southwest of the Site. This nearby wetland is a rich, sloping fen that is associated with a stream that is a tributary to Muddy Brook. In addition, NYSDEC Division of Fish and Wildlife has indicated (based on NYSDEC records) that the following seven listed species may also be present in the vicinity of the Site:

- Swamp Birch (*Betula pumila*)
- Carolina Whitlow grass (*Tomostina reptans*)
- Spotted Pondweed (*Potamogeton pulcher*)
- Hop sedge (*Cyperus lupulinus*)
- Marsh horsetail (*Equisetum palustre*)
- Yellow wild flax (*Linum sulcatum*)
- Narrow-leaved sedge (*Carex amphibola*)

The bog turtle (*Glyptemys muhlenbergii*) has previously been documented within 0.6 miles of the Site. These turtles have the potential to be present at the Site, as individual turtles may travel up to one mile from documented locations. The bog turtle is State-listed as Endangered and is federally-listed as Threatened. Bog turtles are found within low-lying, open wetlands bordered by woodlands – particularly calcareous fens, herbaceous sedge meadows, and pastures. These wetlands are characterized by a continuous flow of water seeping through the saturated soil surface. Within these wetlands, bog turtles need a variety of micro-habitats for basking, foraging, nesting, shelter, and hibernation – including dry pockets, saturated areas, and areas that are subject to flooding. A Phase 1 Bog Turtle Habitat Survey was performed on June 1, 2020, to determine whether or not

the wetland is a potential bog turtle habitat, and to understand what (i.e., Phase 2, education, etc.), if anything, would need to be considered as part of the remedial plan for the wetland. As part of the Phase 1 survey report from July 2020, the following three criteria were evaluated at the Site, in accordance with the U.S. Fish and Wildlife Services (USFWS), Guidelines for Bog Turtle Surveys, to determine the potential for bog turtle habitat:

1. Suitable hydrology;
2. Suitable soils; and
3. Suitable vegetation.

In summary, wetlands at the Site were regarded by the survey scientist as sub-optimal bog turtle habitat. In accordance with NYSDEC Division of Fish and Wildlife recommendations, the following conservative/preventative steps will be taken and/or incorporated into the RSO remedial action:

1. Education and encounter planning for site workers who may come in contact with the bog turtle;
2. Bog turtle exclusion barrier (double row of silt fence) will be installed as needed to both prevent sediment discharge to the downstream environment as well as in locations contiguous with the large DP-22 wetland complex as a barrier against non-resident turtles entering the construction area during the work; and
3. If a bog turtle is found within the work area, a monitoring biologist, permitted by NYSDEC to handle bog turtles, must be notified to safely move the bog turtle out of the remediation zone and place it back into the wetland in the direction it was heading. Notification of the USFWS is also required in this circumstance.

As required, a Bog Turtle Habitat (Phase 1) Survey Report, presenting the results and findings of this study has been included as Appendix C to the RSO Report (**Appendix A)**. The results of the FWRIA indicate that significant ecological resources may be present at and in the immediate vicinity of the Site that may be impacted by contamination associated with the Site. These resources include a Critical Environmental Area (CEA), a State-significant natural community (which is also a Class 1 Freshwater Wetland), potential habitat for multiple State-listed rare, threatened, and endangered (RTE) species, and habitat for wildlife including amphibians, reptiles, birds, and mammals. In addition, a cold-water fishery is located 1,000 feet north of the Site. Potentially affected resources at the Site and in the vicinity include components of the aquatic food chain that are directly associated with sediment (i.e., benthic macroinvertebrates) as well as higher trophic level receptors that may forage on vegetation and/or aquatic invertebrates that are present within the Site's shallow emergent marsh habitat. Both aquatic vegetation and invertebrates may bioaccumulate PCBs to levels that are potentially harmful to ecological receptors that forage within the Site. Based on the findings of this assessment, remediation of the sediment was deemed necessary.

New England cottontail rabbits (*Sylvilagus transitionalis*) have also been previously documented within 0.5 miles to the north/northeast of the Site. This rabbit is State-listed as Special Concern. No specific protective measures were identified for this species.

1.5.7 Climate Change Vulnerability Assessment and Green Resiliency Corrective Action Report

In April 2022, TRC prepared a Climate Change Vulnerability Assessment and Green Resiliency Corrective Action Report (CCVA and GRCA Report) for the NYSDEC to assess the potential for climate change to impact the remedy in place at the Site (i.e., ECs) and provide recommendations, or corrective actions, to address the potential vulnerabilities arising from climate change. The corrective actions included a combination of material measures, such as the removal of contaminated sediments from the wetlands portion of the Site, to focused monitoring to ensure that Site conditions do not change in ways that limit the effectiveness of the remedy, such as by causing increased methane generation due to changes in leachate levels and warmer weather, and side-slope erosion due to increased precipitation and runoff.

The CCVA identified several naturally occurring or weather-related risks for the Site, which are predicted to increase in frequency and/or intensity in the future due to the effects of climate change. The engineering controls at the Site are expected to be adequate to withstand the anticipated increase in temperature and the increased potential for storm events that may result in flooding at the Site, and no changes to the cap or surrounding area are proposed. The ability of the Site ECs to withstand repetitive storm events will be diminished if the cap, slope, and wetland areas are not maintained in proper conditions, as these Site features are critical in preventing contact with the underlying waste material and contamination.

The requirements and recommendations provided in the CCVA Report are described in Sections 4.1 and 4.2, and throughout this SMP. A copy of the CCVA Report is included in **Appendix A**.

1.6 Anticipated Use

The remedy anticipated that development and use of the Property be limited to commercial and industrial use, and that use of groundwater as a source of potable or process water would be prohibited without necessary water quality treatment as determined by New York State Department of Health (NYSDOH).

1.7 Remedial Actions Objectives

The Remedial Actions Objectives (RAOs) for the Site as listed in the ROD dated November 1994 are as follows:

- Reduce, control, or eliminate the impact of the contamination present within the soils/waste on-Site (generation of leachate within the fill mass).
- Eliminate the threat to surface waters by eliminating any future contaminated surface run-off from the contaminated soils on-Site.

- Eliminate the potential for direct human or animal contact with the contaminated soils and sediments on-Site.
- Mitigate the impacts of contaminated groundwater to the environment.
- Prevent, to the extent possible, migration of contaminants in the landfill to groundwater.
- Provide for attainment of Standards, Criteria, and Guidance Values (SCGs) for groundwater quality at the limits of the area of concern (AOC).

1.8 Remaining Contamination

Remedial action at the Site was completed in 1996, and the remaining contamination consists of all disposed and consolidated materials remaining within the footprint of the landfill. Contamination in the sediment and surface water in the wetland area was identified shortly following completion of the remedy, and is being addressed by the 2020 RSO Report, provided in **Appendix A**. All material removed under implementation of the RSO will be disposed of off-Site. No additional materials will be placed beneath the landfill cap.

Past and recent groundwater monitoring has consistently demonstrated successful natural attenuation of groundwater contaminants, resulting in very low levels of residual groundwater contamination. Groundwater will continue to be monitored during implementation of this SMP.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 Introduction

2.1.1 General

Since residual contamination exists beneath the Site, EC/ICs are required to protect human health and the environment. This EC/IC Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the EC/ICs set forth in the ROD;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by NYSDEC.

2.2 Engineering Controls

All engineering controls at the Site are considered passive components and do not require an Operation and Maintenance Plan. The engineering controls in place at the Site include the fencing, landfill cap, leachate collection system, monitoring well network, and passive landfill gas vents. The engineering controls will be monitored with annual inspections. The Monitoring and Inspection Plan consists of groundwater, surface water, and sediment sampling on a routine basis to evaluate remedy progress and verify decreasing concentrations of contamination. Details of the Monitoring and Inspection Plan are discussed in **Section 3.0**.

2.3 Institutional Controls

A series of ICs is required by the ROD to: (1) implement, maintain, and monitor on-Site measures; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and (3) limit the use and development of the Site to commercial or industrial uses only. Adherence to these ICs on the Site is required by the ROD and will be implemented under this SMP. These ICs are:

- The Property is subject to the Environmental Easement;

- Unless prior written approval by NYSDEC is first obtained, where contamination remains at the Property subject to the provisions of this SMP, there shall be no disturbance or excavation of the Property which results or may result in an increased threat to human health or the environment as a result of exposure to Site contaminants;
- No person shall disturb the landfill cap, or disturb, remove, or otherwise interfere with the installation, use, operations, and maintenance of any other elements of the selected remedy, including but not limited to the programs described in this SMP, unless in each instance they first obtain a written waiver of such prohibition from NYSDEC;
- The remedy was designed to be protective for the following use: Commercial and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iii). Any use for purposes other than Commercial and Industrial without the written waiver of such prohibition by NYSDEC may result in an increased threat to human health or the environment;
- No person shall use the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from NYSDEC. Use of the groundwater without appropriate treatment may result in an increased threat to human health or the environment;
- It is a violation of 6 NYCRR 375-1.11(b) to use the Property in a manner inconsistent with the Environmental Easement;
- The Site shall remain registered in the Inactive Hazardous Waste Disposal Site Registry;
- Compliance with this SMP by the Grantor and the Grantor's successors and assigns is required;
- All controls must be operated, maintained, and inspected at a frequency and in a manner defined as specified in this SMP;
- Groundwater, sediment, surface water, and other environmental or public health media monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Property must be reported at the frequency and in a manner defined in this SMP.

ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The Property is a Class 4 site, which is assigned to locations that have been properly closed but require continued management consisting of operation, maintenance and/or monitoring, until environmental threats have been addressed.

2.4 Site Use

There shall be no construction, use or occupancy of the Property that results in the disturbance of the cap, or excavation activities that may result in human exposure to Site contaminants in the

capped landfill, or landfill gas or groundwater, unless prior written approval by NYSDEC is obtained. Notification of NYSDEC in accordance with Section 2.5 shall precede any such work by at least 60 days, to allow time for review.

Maintenance of each parcel at the Site shall be the responsibility of the respective Property owner(s). Vegetated cover shall be maintained to reduce potential erosion of the surface soils. To reduce the potential for erosion, vehicular access should also be limited.

Site owners shall not interfere with or take actions that reduce the effectiveness of the Site controls (landfill cap, landfill gas vents, groundwater monitoring wells, fencing, etc.). In the event that Property owners inadvertently damage or become aware of damage to any groundwater monitoring wells, they shall promptly notify the NYSDEC contact listed below in Section 2.5.

2.5 Inspections and Notifications

2.5.1 Inspections

A comprehensive Site-wide inspection, including all remedial components installed at the Site, will be conducted at the frequency specified in the Monitoring and Inspection Plan schedule (**Table 2**). The inspections will determine and document the following:

- That the Property continues to be subject to the Environmental Easement;
- Whether Site controls continue to perform as designed;
- If the Site controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media, as required, during monitoring events;
- If Site records are complete and up to date; and
- Changes implemented, or required, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring and Inspection Plan (**Section 3.0**). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (**Section 5.2**).

If an emergency, such as a natural disaster occurs, an inspection of the Site will be conducted within five days of the event to verify the effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

2.5.2 Notifications

Notifications will be submitted by the Property owner to NYSDEC, as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the 6 NYCRR Part 375, and/or ECL;
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan in **Appendix C**;
- Next day notice (by noon of the following day) of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the Site, with written confirmation within seven days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public; and
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of all approved work plans and reports, including this SMP; and
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

Notifications will be made to:

Gail Dieter, Project Manager
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7017
Phone: (518) 402-9813
E-mail: Gail.Dieter@dec.ny.gov

2.6 Contingency Plan

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.6.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Property Owner or Owner's representative(s) shall contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel shall be contacted. Prompt contact shall also be made to the NYSDEC Project Manager. These emergency contact lists must be maintained and posted in an easily accessible location at the Site.

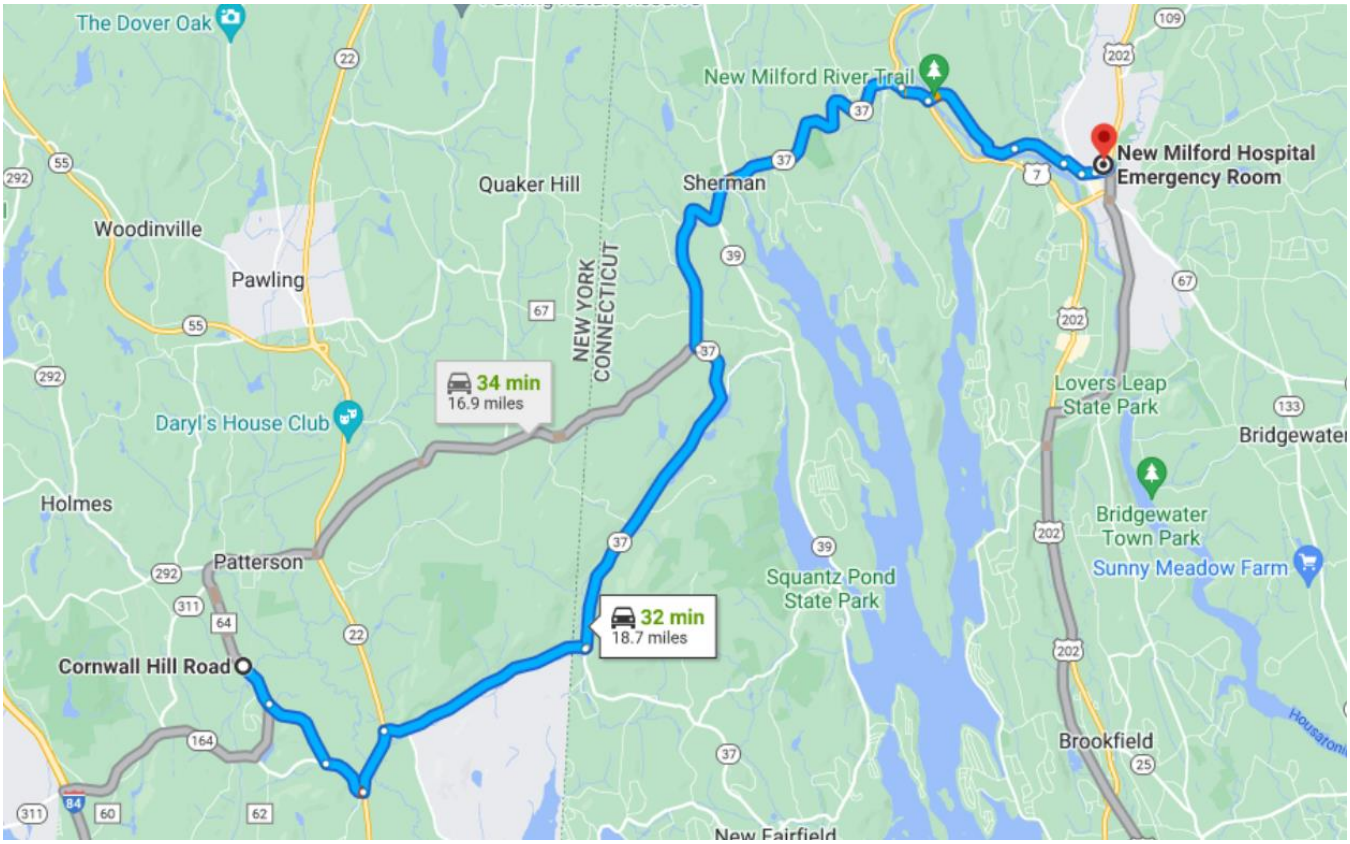
Table 1: Emergency Contact Numbers	
Medical, Fire, and Police:	911
One Call Center (3-day notice required for utility mark-out):	(800) 272-4480
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline:	(800) 457-7362
NYSDEC Project Manager – Gail Dieter	(518) 402-9813

* Note: Contact numbers subject to change and should be updated as necessary

2.6.2 Map and Directions to Nearest Health Facility

- Site Location: Cornwall Hill Road, Patterson, New York
- Nearest Hospital Name: New Milford Hospital
- Hospital Location: 21 Elm St, New Milford, Connecticut 06776
- Hospital Telephone: (800) 585-7198
- Directions to the Hospital:
  - Take Couch Road to NY-164 E (3 min.);
    - Head southeast on Cornwall Hill Road (0.6 mi.)
    - Slight left onto Couch Road (1.1 mi.)
  - Take Haviland Hollow Road and CT-37 N to Boardman Road in New Milford (22 min.);
    - Turn left onto NY-164 E (0.6 mi.)
    - Turn left onto NY-22 N (0.8 mi.)
    - Turn right onto Haviland Hollow Road (2.7 mi.)
      - Entering Connecticut
    - Turn left to stay on Haviland Hollow Road (125 ft)
    - Turn left onto CT-37 N (4.2 mi.)
    - Turn right to stay on CT-37 N (5.6 mi.)
    - Turn right onto US-7 S (0.4 mi.)
  - Follow Boardman Road and Housatonic Avenue to Wellsville Avenue (5 min.);
    - Turn left onto Boardman Road (1.4 mi.)
    - Continue onto Housatonic Avenue (0.7 mi.)
    - Turn left to stay on Housatonic Avenue (0.3 mi.)
    - Housatonic Avenue turns right and becomes Wellsville Avenue (98 ft)
  - Continue on Bennitt St to your destination (2 min.);
    - Slight left onto Bennitt Street (0.2 mi.)
    - Continue onto Elm Street (0.1 mi.)
    - Turn left (95 ft)
    - Turn right (466 ft)
    - Turn left (43 ft)
- Total Distance: 18.7 miles

- Total Estimated Time: About 32 minutes



2.6.3 Response Procedures

As appropriate, the fire department and other emergency response groups will be notified immediately by telephone of the emergency, refer to **Table 1**.

3.0 MONITORING AND INSPECTION PLAN

3.1 General

This Monitoring and Inspection Plan describes the measures for evaluating the performance and effectiveness of the remedy and may only be revised with the approval of the NYSDEC. All field work will be conducted in accordance with the Generic Field Activities Plan (FAP) included in **Appendix F**, and the Generic Health and Safety Plan (HASP) included in **Appendix G**. Details regarding the sample handling, data quality usability objectives, analytical methods, etc. for all samples collected as part of Site management are included in the Generic Quality Assurance Project Plan (QAPP) provided in **Appendix H**.

3.1.1 Purpose and Schedule

This Monitoring and Inspection Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, surface water, and sediment);
- Assessing compliance with applicable SCGs, particularly sediment guidance values and ambient groundwater and surface water standards;
- Assessing achievement of the remedial performance criteria;
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring and Inspection Plan provides information on:

- Sampling locations, protocol, and frequency;
- Laboratory analysis and reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Required reporting and certifications.

Trends in the concentrations of Site-related compounds in groundwater at the Site will be evaluated to determine if the remedy continues to be effective. The monitoring and inspection programs are summarized in **Table 2** and detailed in **Sections 3.2** and **3.3** below. Reporting requirements are provided in **Section 5.0** of this SMP.

Table 2: Monitoring/Inspection Schedule			
Monitoring Program	**Frequency[(a)]**	**Location**	**Analysis**
Groundwater	Annual	• MW-01A • MW-01B • MW-03A • MW-03B • MW-05A • MW-05B • MW-20A • MW-20B	• Target Compound List (TCL) Volatile Organic Compounds (VOCs) via SW846 8260 – Low Level (including 1,4-Dioxane by SIM) • TCL Semi-volatile Organic Compounds (SVOCs) via SW846 8270 • TCL PCBs via SW846 8082 • Total Analyte List (TAL) Metals via SW846 6010/7470A/9010 • Total Suspended Solids via Method 160.2 • Total Organic Carbon (TOC) via Method 415.1 • Per- and Polyfluoroalkyl Substances (PFAS) Analyte List by Modified USEPA Method 1633
Surface Water	Annual	• Wetland standing water (2 samples) • LCS MH-A (1 sample)	• TCL VOCs via SW846 8260 • TCL SVOCs via SW846 8270 • TCL PCBs via SW846 8082 • TAL Metals via Method 200.7/245.1 • Total Suspended Solids via Method 160.2 • TOC via Method 415.1 • PFAS Analyte List by Modified Method 1633.
Sediment	Annual	• 10 Locations - 8 within former remediation area - 2 outside former remediation area	• TCL VOCs via SW846 8260 • TCL SVOCs via SW846 8270 • TCL PCBs via SW846 8082 • TAL Metals via SW846 6010/7470A/9010
Site Wide Inspection	Annual, and after significant storms	Landfill Infrastructure	• Landfill Cap Inspection (erosion, vegetative quality) • Wetland Area Inspection • Leachate Collection System Inspection • Gas Vent Riser Inspection • Monitoring Well Inspection • Perimeter Fence Inspection

[(a)] The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

3.2 Site-Wide Inspection

Site-wide inspections will be performed annually and after all severe weather events that may affect ECs. During these inspections, the Daily Inspection Report form will be completed using the forms provided in **Appendix D**. The form will compile sufficient information to assess the following:

- Compliance with ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;

- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules, if any; and
- Confirm that Site records are up to date.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in the subsequent PRR.

It should be noted that inspection recommendations were provided in the CCVA Report, including routine inspections of the Site's landscaping along with performing any maintenance or repairs to the Site cap. Site inspections are proposed on an annual basis and following significant storms, and would include an assessment of the following:

- Cap condition and health of vegetated cover;
- Leachate elevations and quality;
- Landfill gas evaluations; and,
- Confirmation that equipment and structures, if any, are properly anchored.

Corrective actions shall be scheduled if damage to the cap or vegetated cover are observed during a routine or post-storm inspection, and should be conducted in accordance with the recommendations and requirements of the CCVA Report. The assessment of the leachate collection and gas venting systems may also require corrective measures, including cleaning of gas vents or active measures to control the migration of landfill gas and/or leachate from the Site.

3.3 Groundwater Monitoring

Groundwater monitoring will be performed on an annual basis to assess the performance of the remedy. A network of eight monitoring wells has been installed at the Site to monitor the perimeter of the landfill. The monitoring well details are listed below in **Table 3**, and the monitoring well locations are illustrated on **Figure 2**.

Table 3: Monitoring Well Network					
Well ID	Ground Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Bedrock Elevation (ft amsl)	Total Depth[1] (ft btoc)	Sand Pack Interval (ft btoc)
MW-1A	460.2	462.57	401.34	61.25	51.90 – 59.40
MW-1B	460.0	462.28	438.80	23.50	14.60 – 23.50
MW-3A	431.2	433.70	367.00	67.06	51.86 – 67.36
MW-3B	431.5	435.12	403.81	31.33	26.70 – 34.20
MW-5A	430.6	433.40	363.11	70.38	64.18 – 72.18
MW-5B	430.3	432.88	402.81	30.20	21.38 – 30.38
MW-20A	430.5	430.37	413.23	39.95	29.95 – 39.95[2]
MW-20B	430.2	430.22	392.63	19.75	9.75 – 19.75[2]

ft = feet; amsl = above mean sea level; btoc = below top of casing; NA = information not available; [1] = depth measured on 5/4/22; [2] = estimated based on last measurements.

The groundwater monitoring program will include groundwater level gauging and sampling events approximately 12 to 15 months apart in order to collect samples that reflect seasonal groundwater fluctuation and contaminant migration. A summary of the well construction details are in **Appendix B**.

3.3.1 Sampling Protocol

Sampling procedures will include water level measurements, well purging, groundwater quality measurements, and sample collection at each monitoring well location. A copy of the purging and sampling log form (**Appendix D**) will be used to record well purging, water quality measurements, and sampling flow rates. Water level measurements and analytical results will be included in a summary memorandum issued after each groundwater sampling event. Detailed sampling procedures are included in the NYSDEC approved Generic Field Activities Plan (FAP) included in **Appendix F**.

In order to evaluate the groundwater flow direction at the Site, groundwater level gauging will be performed. Prior to sampling, water levels will be obtained from monitoring wells. The indicator probe will be gradually lowered into the well until the probe has reached water. The water level will then be obtained by measuring the depth from this point to the top of the well's inner casing or surveyed reference mark. The water level measurement will be recorded to the nearest 0.01 foot. Total depth of the well will then be measured from the top of the well's inner casing or surveyed reference mark to the bottom of the well. The total well depth measurements will be to the nearest 0.1 foot.

Each well will be purged as needed for the sample collection method. Samples should be collected after field parameters stabilize, or purge volume targets are achieved. Field parameters, including pH, conductivity, turbidity, and temperature, should be monitored during the groundwater purging and sampling events using a water quality instrument.

After preparing the well, groundwater samples will be collected using NYSDEC approved procedures. The groundwater samples will be transferred directly to the appropriate laboratory supplied sample container(s). Sample containers will be properly labeled at the time of sample collection and proper chain of custody procedures will be followed. One matrix spike/matrix spike duplicate will be collected and analyzed for each round of sampling. One trip blank will accompany each shipment of aqueous samples requiring VOC analysis.

All sampling activities will be recorded in a field book and associated sampling log as provided in **Appendix D**. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Detailed sample collection and analytical procedures are discussed in the Generic QAPP provided in **Appendix H**.

The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

3.3.2 Monitoring Well Repairs, Replacement, and Decommissioning

Groundwater monitoring well repairs and/or replacement will be performed based on assessments of structural integrity and overall performance. If biofouling or silt accumulation occurs in the on-Site and/or off-Site monitoring wells, the wells will be physically agitated/surged and redeveloped. In the event that a monitoring well is no longer serviceable, it will be decommissioned and replaced as necessary.

NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent PRR. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. The decommissioning and abandonment of the monitoring well will be completed in accordance with NYSDEC standard procedures and guidance. Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by NYSDEC. Replacement wells shall be constructed using methods consistent with those used during previous investigations or with approval of NYSDEC project manager.

3.4 Surface Water Monitoring

Surface Water monitoring will be performed on an annual basis to assess the performance of the remedy. Surface water sampling locations will remain consistent with previous monitoring events performed at the Site. **Figure 2** illustrates the surface water monitoring locations.

3.4.1 Sampling Protocol

All surface water sampling activities will be recorded in a field book and/or a sampling log. Surface water samples will be collected (grab samples) using clean glass ware and decanted into pre-preserved, laboratory-supplied sampling vials or other glassware. Containerized samples will be placed on ice and shipped, under chain of custody, to a NYSDEC-approved (NYSDOH ELAP-certified) laboratory. The samples will be analyzed within the applicable holding time for the respective laboratory analytical methods (**Table 2**).

3.5 Sediment Monitoring

Sediment monitoring will be performed on an annual basis to assess the performance of the remedy. Sediment sampling locations will remain consistent with previous monitoring events performed at the Site. **Figure 2** illustrates the sediment monitoring locations.

3.5.1 Sampling Protocol

All sediment sampling activities will be recorded in a field book and/or a sampling log. Sediment samples will be collected 0 to 4 inches below sediment surface (bss) using new or pre-cleaned stainless steel spoons. Grab samples will be placed directly into the appropriate laboratory-supplied sample containers. The samples will be placed on ice and shipped, under chain of custody, to a NYSDEC-approved laboratory. The samples will be analyzed within the applicable holding time for the respective laboratory analytical methods (**Table 2**).

3.6 Soil Vapor Monitoring

While soil vapor samples will not be collected for laboratory analysis, a VRAE Multi Gas Meter or similar will be used to monitor vapor being emitted from the passive landfill gas vents on an annual basis. **Figure 2** illustrates the approximate locations of the landfill gas vents.

3.7 Decontamination Procedures

All non-dedicated equipment and tools used to collect samples for chemical analysis will be decontaminated prior to and between each monitoring well using an Alconox rinse and potable water rinse. Additional cleaning of the equipment with steam may be needed under some circumstances. Decontamination fluids will be discharged to the ground surface unless a visible sheen or odor is detected either on the equipment or the fluids, at which point the decontamination water will be staged in an appropriate container and disposed of appropriately.

3.8 Storage and Disposal of Waste

The sampling team will be responsible for the proper storage, handling, and disposal of investigative derived waste including personal protective equipment, solids and liquids generated during the well drilling, well development, and well sampling activities.

Accordingly, handling and disposal will be as follows:

- Liquids generated from contaminated equipment decontamination that exhibit visual staining, sheen, or discernable odors will be collected in drums or other containers at the point of generation. They will be stored in an appropriate staging area as approved by NYSDEC. A waste subcontractor will then remove the drums and dispose at an off-Site location;
- Liquid generated during well purging or decontamination that does not exhibit visible staining, sheen, or discernable odors will be discharged to an unpaved area on the Site, where it can percolate into the ground; and
- Non-contaminated trash, debris, and PPE will be placed in a trash dumpster and disposed of by a local garbage hauler.

3.9 Laboratory Analysis

Groundwater, surface water, and sediment samples will be analyzed by a NYSDOH Environmental Laboratory Accreditation Program-certified (ELAP-certified) laboratory for the EPA method-based analyses described within **Table 2**. It is anticipated that preliminary analytical results will be available within two weeks of receipt at the laboratory, and final results will be provided within the standard turnaround time (i.e., 30 days).

3.10 Monitoring Quality Assurance/Quality Control

All sampling and analyses will be performed in accordance with the Generic QAPP (**Appendix H**). All sample analysis will be conducted by a laboratory that is accredited pursuant to the NYSDOH Environmental Laboratory Accreditation Program (ELAP) for the category of parameters analyzed. Main components of the QAPP include:

- QA/QC objectives for data measurement;
- Sampling program:
    - Sampling containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such;
    - Sample holding times will be in accordance with the NYSDEC Analytical Services Protocol requirements;
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected, as necessary;
- Sampling tracking and custody;

- Calibration procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions;
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods;
- Analytical procedures;
- Results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method;
- Internal QC and checks;
- QA performance and system audits;
- Preventative maintenance procedures and schedules; and,
- Corrective action measures.

3.11 Monitoring Reporting Requirements

Forms and any other information generated during regular monitoring events and inspections will be kept on file. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in **Section 5.0**.

Monitoring results will be reported/summarized in a letter report following each sampling event. The letter report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., groundwater, surface water, sediment, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain of custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- Figures illustrating the various sample types, results, and sampling locations;

- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in NYSDEC electronic data deliverable [EDD] format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether Site conditions (i.e., groundwater, surface water, or sediment quality) have changed since the last reporting event.

All monitoring results will subsequently be reported to NYSDEC in a Periodic Review Report. the next PRR will be prepared 12 months following completion of the RSO. Subsequent PRRS will be prepared every 3 years thereafter. Periodic Review Reports will be prepared and certified in accordance with DER-10, and as outlined in Section 5.2 of this SMP.

Data will be reported in hard copy or digital format as determined by NYSDEC.

A summary of the monitoring program deliverables is summarized in **Table 4** below:

Table 4: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency[(a)]
Media Monitoring Letter Report	Following each sampling event
Periodic Review Report	12 months following RSO, every 3 years thereafter

[(a)] The frequency of events will be conducted as specified until otherwise approved by NYSDEC

3.11.1 Evaluations of Records and Reporting

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring and Inspection Plan is being implemented;
- Operation and maintenance activities are being conducted properly, if needed; and
- The Site remedy continues to be protective of public health and the environment and is performing as designed in the Final Remediation Report.

4.0 PERIODIC ASSESSMENT/EVALUATIONS

4.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, increase in sea level and flood elevations and flood impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the Site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

A CCVA was performed by TRC and a summary report was submitted to NYSDEC in April 2022. The assessment concluded that ECs at the Site are expected to be adequate to withstand the anticipated increase in temperature and the increased potential for storm events that may result in flooding at the Site, and no changes to the cap or surrounding area were proposed. Recommendations included incorporating routine inspections in the SMP, as well as inspections to be conducted after significant rainfall events, storms, or potential flooding conditions. The ability of the Site ECs to withstand repetitive storm events will be diminished if the cap, slopes, and wetlands areas are not maintained in proper conditions, as these Site features are critical in preventing contact with the underlying waste material and contamination. Detailed discussions of the CCVA activities and findings are provided in the CCVA Report (**Appendix A**).

4.2 Site Management Inspection Recommendations

The leachate collection system, landfill gas venting system, landfill cap, and the restored wetlands will require periodic inspections and upkeep to ensure they remain effective in protecting human health and the environment.

The recommended best management practices (BMPs) for the Site management phase, as developed in the CCVA Report, are presented below.

- Use of energy efficient or electric vehicles for personnel transport to the Site.
- Use local vendors to provide equipment and materials needed for Site inspection and maintenance.
- Use local businesses to conduct routine landscaping activities and minimize landscaping visits to the extent practicable while maintaining safe conditions at the Site.
- Compost or spread grass clippings and leaf debris on-Site to be used as fertilizer for subsequent growth, reducing off-Site waste disposal and the importation of chemical fertilizers.
- If leachate and landfill gas monitoring show the need for frequent Site inspections, consider the installation of a solar powered telemetry system to provide on-demand information

from in-situ data loggers. Data loggers could be employed to measure leachate elevations within the landfill and methane concentrations in the landfill gas vent risers.

- Consider the use of passive diffusion bags for routine groundwater sampling events. This will reduce the amount of purge water generated, the amount of time spent on-Site and the need for groundwater purging equipment.

4.3 Green Remediation Evaluation

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program, including Site management, with the goal of improving the sustainability of the remedy and summarizing the net environmental benefit of any implemented green technologies. This section of the SMP provides a summary of the green remediation evaluations that were performed in the CCVA and recommended practices for future Site management.

Opportunities to incorporate green remediation BMPs are available in most site management projects. For this Site, waste generation and fossil fuel usage were identified as two key opportunities.

Waste Generation

Monitoring, maintenance, and reporting activities associated with the Site management may result in material consumption and the generation of waste. A summary of the current material consumption and waste generation activities for the Site are summarized below:

- Personal protective equipment associated with groundwater sampling, such as disposable gloves, etc.
- Polyethylene tubing for groundwater sampling events.
- Packaging material and ice used to pack and preserve samples to be submitted for laboratory analysis.
- Paper and office supplies associated with Site logs, monitoring logs and report preparation.
- Purge water is containerized in the event that evidence of significant contamination is present (e.g. strong odors, sheen, product). Containerizing will depend on the condition of the water. If there are no odors, sheen, or product, purge water can be disposed of by discharging to the ground.

Fossil Fuel Usage

Site management activities do not directly use fossil fuels; however, fossil fuels are indirectly used during the completion of monitoring activities associated with routine monitoring of the Site. Indirect fossil fuel use results from completion of the following Site related activities:

- Transportation to and from the Site for sampling and inspections.

- Off-Site transportation and shipment of samples collected for laboratory analysis.
- Disposal of waste generated at the Site.

4.3.1 Metrics and Reporting

Information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation BMPs during Site management and to identify corresponding benefits. **Appendix E** provides a form that will be used to measure and document BMPs incorporated.

5.0 INSPECTIONS, REPORTING, AND CERTIFICATIONS

5.1 Periodic Review Report

A Periodic Review Report will be submitted to the NYSDEC every three years, beginning twelve months after completion of the RSO (next PRR to be 12 months following completion of the RSO, every 3 years thereafter). If the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment, and certification of all ECs/ICs required by the remedy for the Site. The certification of all ECs/ICs will be prepared in accordance with the requirements of DER-10;
- Results of the required annual Site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (e.g., groundwater), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format; and
- A Site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the ROD;
    - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
    - An evaluation of trends in contaminant levels in the affected media to determine if the remedy continues to be effective in achieving remedial goals as specified by the ROD;
    - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring and Inspection Plan for the media being monitored;

- Recommendations regarding any necessary changes to the remedy and/or Monitoring and Inspection Plan;
- The overall performance and effectiveness of the remedy; and

- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documents.

The Periodic Review Report will be submitted, in electronic format to NYSDEC Central Office, Regional Office and NYSDOH Bureau of Environmental Exposure Investigation. The following naming format will be used:

Report.HW.340011.year(xxxx).month(xx).date(xx).Kessman_Landfill.PRR.pdf

5.2 Certification of Intuitional and Engineering Controls

After the last inspection of the reporting period, a qualified environmental professional will prepare the following certification:

"For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental notice;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner/Remedial Party or Owner's/Remedial Party's Designated Site Representative] for the site."

The signed certification will be included in the Periodic Review Report.

In the event that reconstructive engineering efforts (i.e., engineering control modifications) are performed during any given reporting period, a Professional Engineer licensed to practice in New York State will be required to certify that such efforts were performed in conformance with requirements set forth herein. Additionally, at the request of the NYSDEC, a Professional Engineer licensed to practice in New York State will prepare the above certification.

5.3 Corrective Measures Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an IC/EC, a corrective measures plan will be submitted to NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

5.4 Remedial Site Optimization Report

In the event that a RSO is to be performed, upon completion of a RSO, a RSO report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager, for review. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the SMP may also be required.

6.0 REFERENCES

Phase I Environmental Site Assessment, Cross-County Sanitary - Kessman Landfill Site, Camp, Dresser, and McKee, Inc., 1983;

Phase II Environmental Site Investigation, Cross-County Sanitary - Kessman Landfill Site, Wehran Engineering, P.C., 1985;

Work Plan for the Remedial Investigation/Feasibility Study, Cross-County Sanitary - Kessman Landfill Site, NYSDEC, May 1991;

Remedial Investigation – Vols. I and II, Cross-County Sanitary - Kessman Landfill Site, ABB Environmental Services (ABB-ES), September 1994;

Feasibility Study Report, Kessman/Cross County Sanitation Landfill Site, ABB-ES, September 1994;

Record of Decision, Kessman / Cross-County Sanitation Landfill Inactive Hazardous Waste Site, NYSDEC, November 1994;

Final Remediation Report, Kessman/Cross County Sanitation Landfill Site, ABB-ES, July 1997;

Operation, Maintenance and Monitoring, Site No. 340011, NYSDEC, March 2005;

Operation, Maintenance and Monitoring (2005 – 2007), Site No. 340011, NYSDEC, November 2007;

Memorandum from G. Rider to R. Knizek, Periodic Review Report for Kessman Landfill, Site No. 340011, December 8, 2008;

DER-10, Technical Guidance for Site Investigation and Remediation, NYSDEC, May 2010;

Site Management Plan – Rev. 0, Cross County Sanitation - Kessman Landfill, NYSDEC, June 2011;

PCB Delineation Sampling, Cross County / Kessman Sanitation Landfill Site, Aztech Technologies, Inc. (Aztech), September 2012;

PCB Delineation Sampling, Cross County / Kessman Sanitation Landfill Site, Aztech, October 2012;

PCB Sediment Delineation Report, Cross County / Kessman Landfill, Aztech, January 29, 2013;

Site Management Plan – Rev. 1, Cross County Sanitation - Kessman Landfill, NYSDEC, January 23, 2014;

Environmental Easement, Site No. 340011(e), NYSDEC, May 2014;

Environmental Easement, Site No. 340011(e1), NYSDEC, August 2014;

Fish and Wildlife Resource Impact Analysis, TRC Companies (TRC), June 2020;

Bog Turtle Habitat (Phase 1) Survey Report, TRC, July 2020;

Periodic Review Report - October 2019 – October 2020, TRC, October 2020;

Remedial System Optimization Report, TRC Engineers, Inc., December 2020;

Climate Change Vulnerability Assessment and Green Resiliency Corrective Action Report, TRC, April 2022;

Periodic Review Report, TRC Engineers, Inc., October 2022

New York Codes, Rules and Regulations, Title 6, Part 360, Solid Waste Management Facilities General Requirements (6 NYCRR 360)

FIGURES

SCALE: 1:2400

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

1 0.5 0 1

MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

QUADRANGLE LOCATION

MAP INCLUDES INFORMATION FROM THE FOLLOWING MAP SHEET(S):
TP, BREWSTER, NY, CT, 7.5-MINUTE DATED 2019,
NE, PAWLING, NY, CT, 7.5-MINUTE DATED 2019,
NW, POUGHQUAG, NY, 7.5-MINUTE DATED 2019,
W, LAKE CARMEL, NY, 7.5-MINUTE DATED 2019.

MAP OBTAINED THROUGH USE OF TOPOVIEW WITH THE INTERFACE CREATED BY THE NATIONAL GEOLOGIC MAP DATABASE PROJECT (NGMDB), IN SUPPORT OF THE TOPOGRAPHIC MAPPING PROGRAM, MANAGED BY THE USGS NATIONAL GEOSPATIAL PROGRAM (NGP).

TRC
1090 Union Road, Suite 280
West Seneca, NY 14224
Phone: 716.221.0774
www.TRCcompanies.com

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE NO. 340011 - CROSS-COUNTY SANITARY/KESSMAN LANDFILL
286 CORNWALL HILL ROAD
PATTERSON, NEW YORK 12563

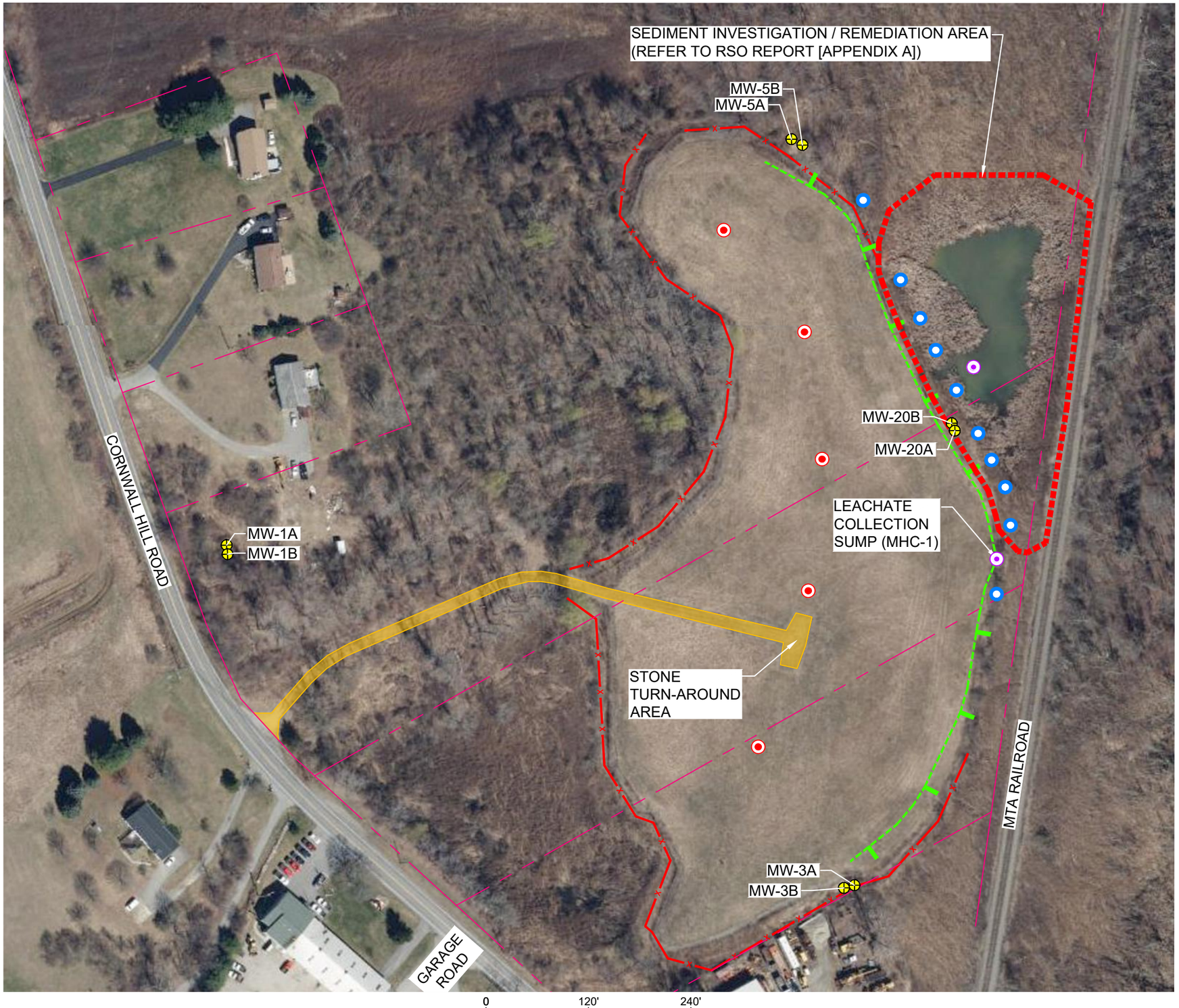
TITLE:

SITE LOCATION MAP

DRAWN BY:	H. DELGADO
CHECKED BY:	J. YAEGER
APPROVED BY:	K. SULLIVAN
DATE:	AUGUST 2022
PROJ. NO.:	453379.0000.0000
FILE:	Fig 1 - Site Location Map (KLF).dwg

FIGURE 1

8.5x11 -- ATTACHED XREFS: -- NY, Brewster, 20190930, TM; NY, Lake Carmel, 20190930, TM; NY, Pawling, 20190926, TM; NY, Poughquag, 20190927, TM;
DRAWING NAME: B:\Projects\NYSDEC\D009812\Work Assignments\D009812-23 Kessman Remedial Action\Site Management\SMP 2022\Figures\TRC Working Drawings\ Fig 1 - Site Location Map (KLF).dwg --- PLOT DATE: August 09, 2022 - 4:23PM --- LAYOUT: 8.5x11P



LEGEND (SYMBOLS NOT TO SCALE):

- ACCESS ROAD
- FENCE LINE
- PROPERTY BOUNDARY
- SEDIMENT INVESTIGATION / REMEDIATION AREA
- MW-## — GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- SURFACE WATER MONITORING LOCATION
- SEDIMENT MONITORING LOCATION
- LANDFILL GAS VENT MONITORING LOCATION
- (MH) — LEACHATE COLLECTION SYSTEM MANHOLE (SURFACE WATER MONITORING LOCATION)
- LEACHATE COLLECTION SYSTEM PIPE (WITH APPROXIMATE LOCATION OF OUTLETS SHOWN. NOT FIELD VERIFIED.)

N

NOTES:

1. BASEMAP IMAGERY SOURCED FROM ESRI DATABASE DATED NOVEMBER 5, 2019.
2. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.

SHEET SIZE: 11" BY 17"

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE NO. 340011 - CROSS-COUNTY SANITARY/KESSMAN LANDFILL
286 CORNWALL HILL ROAD
PATTERSON, NEW YORK 12563

TITLE:
SITE LAYOUT AND MONITORING LOCATIONS

DRAWN BY:	H. DELGADO	PROJ NO.:	453379.0000.0000
CHECKED BY:	J. YAEGER		**FIGURE 2**
APPROVED BY:	K. SULLIVAN		
DATE:	AUGUST 2022		

TRC
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West Seneca, NY 14224
Phone: 716.221.0774
www.TRCcompanies.com

FILE NO.: Fig 2 - Site Layout & Mon. Locs. (KLF).dwg

APPENDIX A

Collection of Reference Historical Site Documents

- **Environmental Easements**
- **Remedial System Optimization Report** (under separate cover)
- **Climate Change Vulnerability Assessment and Green Resiliency Corrective Action Report** (under separate cover)

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 4th day of August, 2014, between Owner(s) THE COUNTY OF PUTNAM, having an office at 40 Gleneida Avenue, Carmel, County of Putnam, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of Cornwall Hill Road in the Town of Patterson, County of Putnam and State of New York, known and designated on the tax map of the County Clerk of Putnam as tax map parcel numbers: Section 13. Block 3 Lots 16 & 17, being the same as that property conveyed to Grantor by deed dated January 8, 2008 and recorded in the Putnam County Clerk's Office in, Liber 11795 at Page 26, comprising approximately 7.49 +/- acres, and is hereinafter more fully described in the Land Title Survey dated February, 2014 prepared by Zarecki and Associates, LLC., which will be attached to the Site Management Plan. The property description and survey (the "Controlled Property") is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein, Grantor conveys to Grantee, a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP:

(5) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(6) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(7) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the institutional controls and/or engineering controls employed at such site:
  (i) are in-place;
  (ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and
  (iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;
(2) the owner will continue to allow access to such real property;
(3) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls and;
(4) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by

Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 3-40-011
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-1500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233-7017

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the

obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Grantor: THE COUNTY OF PUTNAM

By: maryellen odell.

Print Name: MaryEllen Odell

Title: County Executive Date: 7/24/14

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Putnam)

On the 24th day of July, in the year 20 14, before me, the undersigned, personally appeared MaryEllen Odell, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York

ANDREW W. NEGRO
Notary Public, State of New York
No. 02NE6070549
Qualified in Putnam County
Commission Expires March 4, 20 18

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____

Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 4th day of August, in the year 2014, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

Property Address: Cornwall Hill Road, Patterson, NY
Tax Map: 13.-3-16 & 17

Tax Lot 13.-3-16
Lands now or formerly the County of Putnam

All that certain piece or parcel of land lying and situate in the Town of Patterson, County of Putnam, and State of New York, shown and designated as Lot 2 on a certain map entitled, "Subdivision Plat prepared for Kessman Brothers", filed in the Putnam County Clerks Office as Map #2086, being more particularly bounded and described as follows,

Beginning at a point on the easterly line of Cornwall Hill Road at the northwest corner of Lot 3 filed map #2086, and the southwest corner of the lands described herein, running thence,

1. N 41°53'25"W, 225.00', along Cornwall Hill Road to the southwest corner of Lot 1-A on a certain map entitled "Subdivision Plat prepared for Kessman Brothers", filed in the Putnam County Clerk's Office as Map #2086-C, lands now or formerly Kessman,
2. N 66°-09'00" E, 996.46', along the southerly line of Kessman, to the westerly line of Metro-North Railroad,
3. S 13°36'20" W, 269.50', along Metro-North Railroad, to the northeast corner Lot 3 filed map #2086,
4. S 66°09'00" W, 762.89', back to the point of Beginning.
   Containing 4.320 acres.

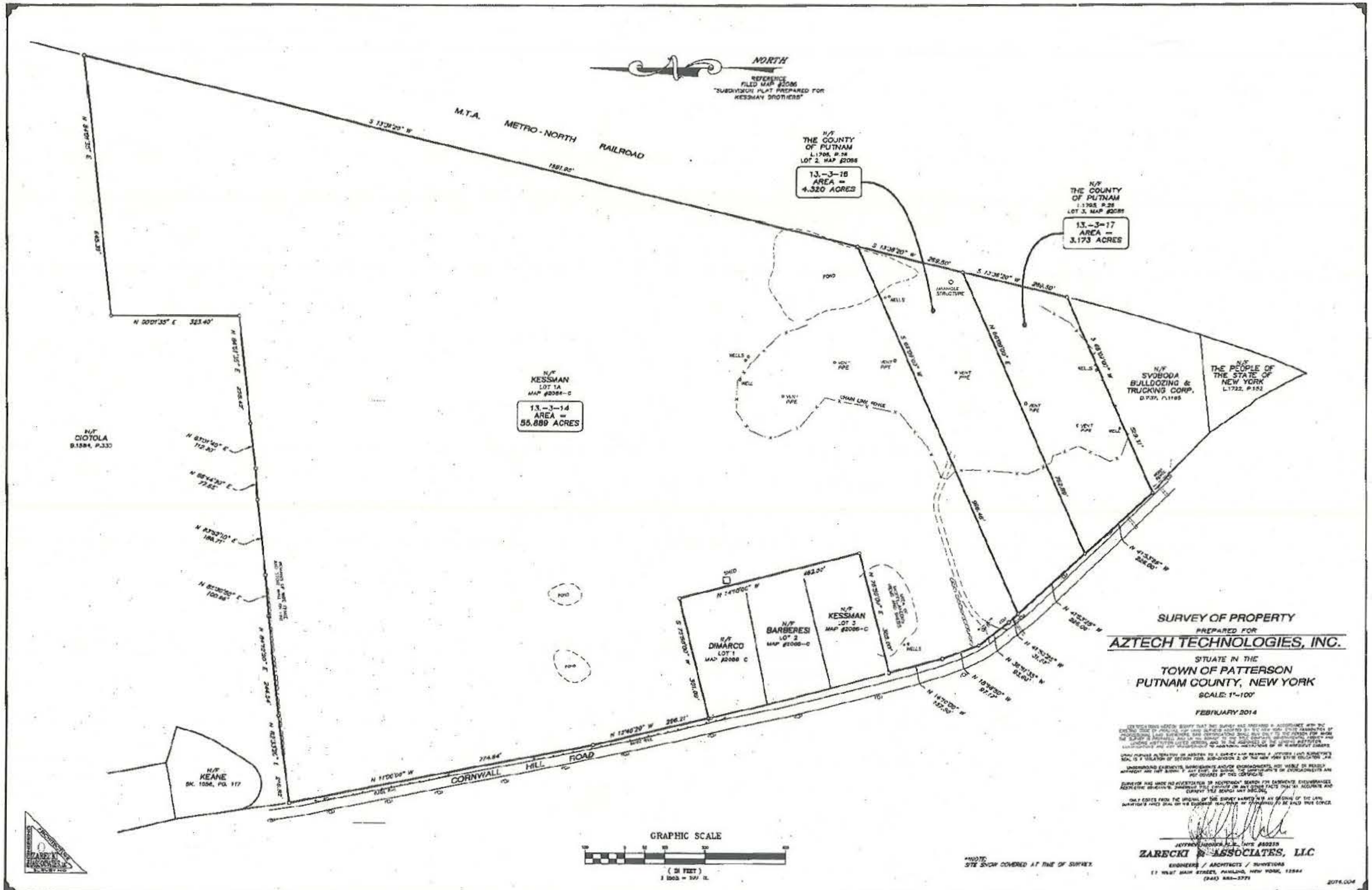
Tax Lot 13.-3-17
Lands now or formerly the County of Putnam

All that certain piece or parcel of land lying and situate in the Town of Patterson, County of Putnam, and State of New York, shown and designated as Lot 3 on a certain map entitled, "Subdivision Plat prepared for Kessman Brothers", filed in the Putnam County Clerks Office as Map #2086, being more particularly bounded and described as follows,

Beginning at a point on the easterly line of Cornwall Hill Road at the northwest corner of lands now or formerly Svoboda Bulldozing & Trucking Corp. and the southwest corner of the lands described herein, running thence,

1. N 41°53'25" W, 225.00', along Cornwall Hill Road to the southwest corner of Lot 2 filed map #2086, lands now or formerly the County of Putnam,
2. N 66°09'00" E, 762.89', along the southerly line of Lot 2 filed map #2086, to the westerly line of Metro-North Railroad,
3. S 13°36'20" W, 269.50', along Metro-North Railroad, to the northeast corner of lands now or formerly Svoboda Bulldozing & Trucking Corp.,
4. S 66°09'00" W, 529.31', back to the point of Beginning.
   Containing 3.173 acres.

SURVEY


NORTH
REFERENCE
FILED MAP #2086
"SUBDIVISION PLAT PREPARED FOR KESSMAN BROTHERS"
M.T.A. METRO-NORTH RAILROAD
N/F THE COUNTY OF PUTNAM
13.-3-16
AREA = 4.320 ACRES
N/F THE COUNTY OF PUTNAM
13.-3-17
AREA = 3.173 ACRES
N/F KESSMAN
LOT 1A
13.-3-14
AREA = 55.889 ACRES
N/F CIOTOLA
N/F SVOBODA BULLDOZING & TRUCKING CORP.
N/F THE PEOPLE OF THE STATE OF NEW YORK
N/F DIMARCO
LOT 1
N/F BARBERESI
LOT 2
N/F KESSMAN
LOT 3
N/F KEANE
CORNWALL HILL ROAD
GRAPHIC SCALE
NOTE: SITE SNOW COVERED AT TIME OF SURVEY.
SURVEY OF PROPERTY
PREPARED FOR
AZTECH TECHNOLOGIES, INC.
SITUATE IN THE
TOWN OF PATTERSON
PUTNAM COUNTY, NEW YORK
SCALE: 1"=100'
FEBRUARY 2014
ZARECKI & ASSOCIATES, LLC
ENGINEERS / ARCHITECTS / SURVEYORS
2014.004

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 9th day of May, 2014, between Owner(s) Kessman Brothers, Jeffrey Kessman, Marvin Kessman, having an office at 3 Meadow Lane, Sherman, CT 06784, County of Fairfield, State of Connecticut (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 326 Cornwall Hill Road in the Town of Patterson, County of Putnam and State of New York, known and designated on the tax map of the County Clerk of Putnam as tax map parcel numbers: Section 13 Block 3 Lot 14, being the same as that property conveyed to Grantor by deed dated July 15, 2004 and recorded in the Putnam County Clerk's Office in Liber and Page 464 of Deed Book 1757, comprising approximately 55.89 +/- acres, and hereinafter more fully described in the Land Title Survey dated February 2014 prepared by Jeffrey Hecker, L.S., which will be attached to the Site Management Plan. The property description (the "Controlled Property") is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is

extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Putnam County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the institutional controls and/or engineering controls employed at such site:
   (i) are in-place;
   (ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and
   (iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;
(2) the owner will continue to allow access to such real property;
(3) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls; and
(4) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 340011
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property

Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Kessman Brothers:

By: Bernard Kessman

Print Name: BERNARD KESSMAN

Title: Owner Date: 5-1-14

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the 1st day of May, in the year 2014, before me, the undersigned, personally appeared Bernard Kessman personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

KIM L. DIGREGORIA
Notary Public State of New York
No. 01DI6220819
Qualified In Dutchess County
Commission Expires 4-19-2018

Notary Public - State of New York Kim L. DiGregoria

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____

Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 9th day of May, in the year 2014, before me, the undersigned, personally appeared Robert Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2014

SCHEDULE "A" PROPERTY DESCRIPTION

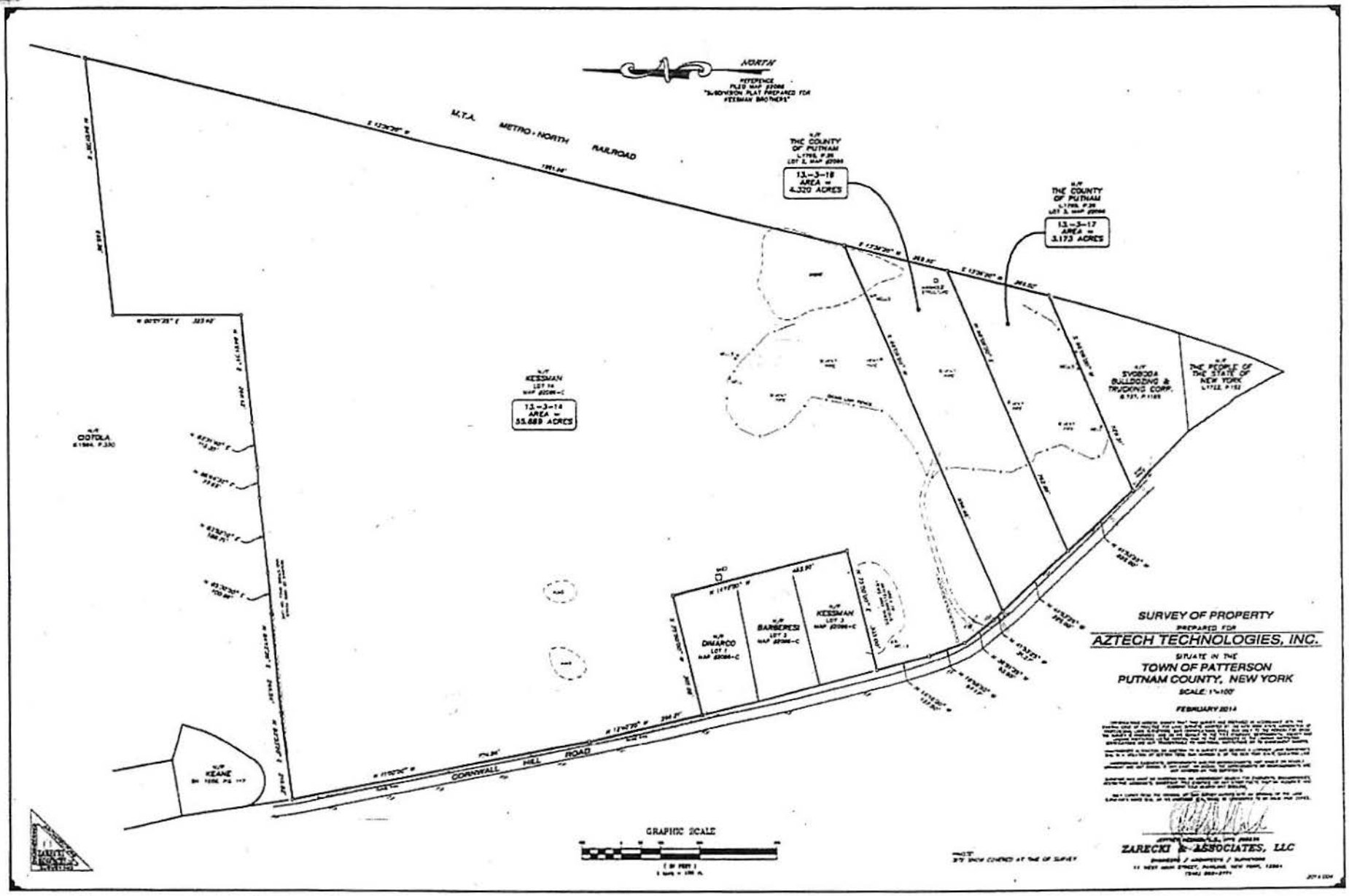
Tax lot 13.-3-14
Lands now or formerly Kessman

All that certain piece or parcel of land lying and situate in the Town of Patterson, County of Putnam, and State of New York, shown and designated as Lot 1-A on a certain map entitled, "Subdivision Plat prepared for Kessman Brothers", filed in the Putnam County Clerks Office as Map #2086-C, being more particularly bounded and described as follows,

Beginning at a point on the easterly line of Cornwall Hill Road at the northwest corner of lands now or formerly The County of Putnam, Lot 2 filed map #2086, and the southwest corner of the lands described herein, running thence,

1. N 41°53'25" W, 31.57', along Cornwall Hill Road,
2. N 36°51'35" W, 93.60',
3. N 18°58'50" W, 97.17',
4. N 14°10'00' W, 137.50', to the southwest corner of lands now or formerly Kessman, Lot 3, filed map #2086-C,
5. N 75°50'00" E, 305.00', along the southerly line of Kessman
6. N 14°10'00" W, 462.50', along the easterly line of Lots 3, 2 & 1 of filed map #2086-C
7. S 75°50'00" W, 301.09', along the northerly line of Lot 1 filed map 2086-C, land now or formerly Dimarco to the easterly line of Cornwall Hill Road,
8. N 12°40'20" W, 296.21
9. N 11°00'00" W, 774.84', to the southwest corner of lands now or formerly Ciotola, thence the following seven courses and distances along the remains of a wire fence and stone wall,
10. N 82°33'20" E, 216.82',
11. N 84°12'20" E, 244.54',
12. N 85°30'50" E, 100.96'
13. N 83°52'10' E, 188.71',
14. N 86°44'30' E, 77.65'
15. N 83°31 '40" E, 112.30',
16. N 84°01 '35" E, 268.42',
17. N 00°01 '35" E, 323.40',
18. N 84°01'35" E, 645.39', to the westerly line of Metro-North Railroad,
19. S 13°36'20" W, 1,991.98', along Metro-North Railroad, to the northeast corner of lands now or formerly The County of Putnam, Lot 2 filed map #2086,
20. S 66°09'00" W, 996.46', back to the point of Beginning.

Containing 55.889 acres.


NORTH
REFERENCE
PLAT MAP #2086
"SUBDIVISION PLAT PREPARED FOR
KESSMAN BROTHERS"
M.T.A.
METRO-NORTH
RAILROAD
THE COUNTY
OF PUTNAM
13.-3-18
AREA =
4.320 ACRES
THE COUNTY
OF PUTNAM
13.-3-17
AREA =
3.173 ACRES
KESSMAN
13.-3-14
AREA =
55.889 ACRES
SVORCINA
BULLDOZING &
TRUCKING CORP.
THE PEOPLE OF
THE STATE OF
NEW YORK
COTOLA
DIMARCO
LOT 1
MAP #2086-C
BARBERESI
LOT 2
MAP #2086-C
KESSMAN
LOT 3
MAP #2086-C
KEANE
CORNWALL HILL ROAD
GRAPHIC SCALE
SURVEY OF PROPERTY
PREPARED FOR
AZTECH TECHNOLOGIES, INC.
SITUATE IN THE
TOWN OF PATTERSON
PUTNAM COUNTY, NEW YORK
SCALE: 1"=100'
FEBRUARY 2014
ZARECKI & ASSOCIATES, LLC

CUSTODIAL RECORD/PERTINENT SITE DOCUMENTS

KESSMAN LANDFILL SITE (NYSDEC SITE NO. 340011)

Camp, Dresser, and McKee, Inc. (CDM), *Phase I Environmental Site Assessment (Phase 1 ESA)*, Cross County Sanitary - Kessman Landfill Site, 1983

Wehran Engineering, P.C. (Wehran), *Phase II Environmental Site Investigation (Phase II ESI)*, Cross County Sanitary - Kessman Landfill Site, 1985

NYSDEC, *Work Plan for the Remedial Investigation/Feasibility Study*, Cross County Sanitary - Kessman Landfill Site, May 1991

ABB Environmental Services (ABB-ES), *Remedial Investigation – Vols. I and II,* Cross-County Sanitary - Kessman Landfill Site, September 1994

ABB-ES, *Feasibility Study (FS)*, Kessman/Cross County Sanitation Landfill Site, September 1994

NYSDEC, *Record of Decision (ROD)*, Kessman / Cross County Sanitation Landfill Inactive Hazardous Waste Site, November 1994

ABB-ES, *Final Remediation Report,* Kessman/Cross County Sanitation Landfill Site, July 1997

NYSDEC, *Operation, Maintenance and Monitoring*, Site No. 340011, March 2005

NYSDEC, *Operation, Maintenance and Monitoring (2005 – 2007)*, Site No. 340011, November 2007

NYSDEC, *Site Management Plan (SMP)*, Cross County Sanitation - Kessman Landfill, June 2011

Aztech Technologies, Inc. (Aztech), *PCB Delineation Sampling*, Cross County / Kessman Sanitation Landfill Site, September 2012

Aztech, *PCB Delineation Sampling*, Cross County / Kessman Sanitation Landfill Site, October 2012

Aztech, *PCB Sediment Delineation Report*, Cross County / Kessman Landfill, January 2013

NYSDEC, *SMP (Rev. 1)*, Cross County Sanitation - Kessman Landfill, January 2014

NYSDEC, *Environmental Easement*, Site No. 340011(e), May 2014

NYSDEC, *Environmental Easement*, Site No. 340011(e1), August 2014

TRC Engineers, Inc. (TRC), *Fish and Wildlife Resource Impact Analysis*, June 2020;

TRC, *Bog Turtle Habitat (Phase 1) Survey Report*, July 2020;

TRC, *Periodic Review Report - October 2019 – October 2020,* October 2020;

TRC, *Remedial System Optimization Report,* December 2020;

TRC, *Climate Change Vulnerability Assessment and Green Resiliency Corrective Action Report,* April 2022;

TRC, *Periodic Review Report*, October 2022

APPENDIX B

Monitoring Well Construction Summary Table

New York State Department of Environmental Conservation
Cross County Sanitary - Kessman Landfill Site — Site No. 340011
Town of Patterson, New York
Monitoring Well Construction Summary

Well ID	Well Diameter (inches)[3]	Well Material[3]	Well Depth (ft btoc)[2]	Screened Formation	*Screen* Top (ft btoc)[5]	*Screen* Bottom (ft btoc)[2]	*Screen* Length (ft)[4]	DTW (ft btoc)[2]	*Elevation (feet AMSL)* Top of Casing[1]	*Elevation (feet AMSL)* Ground Surface[1]	*Elevation (feet AMSL)* Groundwater Elevation[1]	*Elevation (feet AMSL)* Screen Top	*Elevation (feet AMSL)* Screen Bottom	*Location*[1] Northing (feet)	*Location*[1] Easting (feet)
MW-01A	2	PVC	60.90	Overburden	53.75	61.25	7.50	11.46	462.57	460.20	451.11	408.82	401.32	971,712.7	735,779.7
MW-01B	2	PVC	23.62	Overburden	15.00	23.50	8.50	7.24	462.28	460.00	455.04	447.28	438.78	971,723.3	735,778.6
MW-03A	2	PVC	41.15	Overburden	51.56	67.06	15.50	2.40	433.70	431.20	431.30	382.14	366.64	971,325.3	736,514.0
MW-03B	4	PVC	31.28	Overburden	23.83	31.33	7.50	3.42	435.12	431.50	431.70	411.29	403.79	971,321.5	736,501.7
MW-05A	2	PVC	70.80	Overburden	62.38	70.38	8.00	1.97	433.40	430.60	431.43	371.02	363.02	972,198.8	736,440.2
MW-05B	2	PVC	30.25	Overburden	21.20	30.20	9.00	2.38	432.88	430.30	430.50	411.68	402.68	972,192.0	736,453.1
MW-20A	4	PVC	39.95	Overburden	30.95	39.95	9.00	2.98	430.37	430.50	427.39	399.42	390.42	971,857.3	736,631.5
MW-20B	2	PVC	19.75	Overburden	10.75	19.75	9.00	1.72	430.22	430.20	428.50	419.47	410.47	971,866.0	736,627.9

Notes

AMSL : above mean sea level
ft btoc : feet below Top of Casing
DTW : Depth to Water
PVC : polyvinyl chloride

1 : based on May 2022 Survey Data
2 : based on May 4, 2022 Groundwater Sampling Forms
3 : based on May 4, 2022 Well Inspection Form Data
4 : based on 2014 SMP
5 : calculated value (Well Depth - Screen Length)

APPENDIX C

Excavation Work Plan

APPENDIX C – EXCAVATION WORK PLAN

C-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the Site owner or their representative will notify the NYSDEC. Currently, this notification will be made to:

Gail Dieter, Project Manager
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7017
Phone: (518) 402-9813
E-mail: Gail.Dieter@dec.ny.gov

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for Site re-grading, intrusive elements, or utilities to be installed below the ground surface, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this Excavation Work Plan (EWP);
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the Contractor's Health and Safety Plan (HASP), in electronic format, if it differs from the HASP Addendum provided as **Appendix G** of this SMP;
- A copy of the Contractor's Community Air Monitoring Plan (separate plan, not embedded in the HASP), prepared in accordance with NYSDEC DER-10 / Technical Guidance for Site Investigation and Remediation (DER-10);
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

C-2 SOIL SCREENING METHODS

Prior to intrusive soil screening, on-Site utilities shall be field located and appropriate notifications to public utility locating services shall be made. Soil screening is to take place prior to any

excavation or disposal of soil from within the Site boundaries. Soil boring methods or test pit methods may be used to screen soils in advance of excavation. Soil samples shall be collected at a minimum of 5-6 per 500 yd^3 of planned soil excavation (per NYSDEC DER-10, Table 5.4(e)10) and analyzed for volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260 or per the disposal facility's requirements, if applicable.

Visual, olfactory, and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after completion of the RA.

Soils will be segregated based on previous environmental data and screening results into materials that require off-Site disposal, materials that require testing, materials that can be returned to the subsurface, and materials that can be used as cover soil.

C-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay or straw bales will be used as needed near catch basins, surface waters, and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for review by the New York State Department of Environmental Conservation (NYSDEC).

C-4 MATERIALS EXCAVATION AND LOAD OUT

Surface features such as asphalt or concrete shall be saw-cut, removed, and stockpiled prior to excavation of underlying soil. Surficial stone shall also be removed prior to excavation of underlying soil. Excavated underlying soil shall be stockpiled separate from asphalt, concrete, stone, or other debris prior to load out. Excavations left open overnight or longer shall be surrounded by temporary construction fencing. A qualified environmental professional or person under their supervision will oversee all invasive work, and the excavation and load-out of all excavated material. The owner of the Property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Excavation Work Plan. The contractor shall prepare and implement a Community Air Monitoring Plan (CAMP) in accordance with DER-10. The CAMP shall be implemented on a full-time basis during any and all ground intrusive work at the Site.

The presence of utilities and easements on the Site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and New York State Department of Transportation requirements (and all other applicable transportation requirements).

If Site conditions during excavation activities require that trucks drive over bare soil, a truck wash will be operated on-Site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at a truck wash before leaving the Site until the activities performed under this section are complete. Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

C-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the Site if necessary. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

Trucks leaving the Site shall head north on Cornwall Hill Road to NY-311N, then westwardly on NY-292 for designated disposal facilities.

C-6 MATERIALS DISPOSAL OFFSITE

All material excavated and removed from the Site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and federal regulations. If disposal of material from this Site is proposed for unregulated off-Site disposal (i.e., clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-Site management of materials from this Site will not occur without formal NYSDEC approval.

Off-Site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate (i.e., hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, construction/debris recycling facility, etc). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the subsequent Periodic Review Report. This

documentation will include waste profiles, test results, facility acceptance letters, manifests, bills of lading, and facility receipts.

C-7 MATERIALS REUSE ONSITE

Analytical results from soil screening activities, which are completed in accordance with Section 1.2 of this EWP, will be used to determine if reuse is appropriate. Only material meeting the requirements of NYSDEC DER-10 Table 5.4(e)4, and applicable constituent levels in 6 NYCRR Part 375, Table 375-6.8(b), shall be considered appropriate for reuse. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material is not reused on-Site. Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval.

C-8 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported, and disposed in accordance with applicable local, state, and federal regulations. Dewatering, purge, and development fluids will not be recharged back to the land surface or subsurface of the Site, and will be managed off-Site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream, or river) would be subject to NYSDEC SPDES permitting.

C-9 STORMWATER POLLUTION PREVENTION

Sediment barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook, maintained at the Site, and available for inspection by the NYSDEC. All necessary repairs to these erosion and sediment controls shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in this plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

All sediment and erosion controls implemented at the Site shall be constructed and maintained in accordance with New York Standards and Specifications for Erosion and Sediment Control, November 2016.

C-10 COMMUNITY AIR MONITORING PLAN

Continuous air monitoring will be conducted for protection of the downwind community during Site work activities, per the New York State Department of Health (NYSDOH) generic Community Air Monitoring Plan in DER-10 Appendix 1A. Continuous monitoring for volatile organic compound (VOC) and particulate levels at the perimeter of the work area using approved instrumentation will be required during ground intrusive activities, which include excavation and handling of Site soil, test pitting, trenching, and the installation of soil borings. Monitoring stations will be located both upwind and downwind of the work, and shall be approved by NYSDEC. If total VOC levels exceed 5 parts per million (ppm) above background at the work area perimeter or 25 ppm (whichever is lower), work activities will be halted and monitoring continued. All readings will be recorded and available to the NYSDEC and NYSDOH personnel to review.

Exceedances of action levels listed in the Community Air Monitoring Plan will be reported to NYSDEC and NYSDOH Project Managers.

C-11 ODOR CONTROL PLAN

Specific odor control methods to be used on a routine basis will include odor-masking agents, covering stockpiles and exposed excavation edges with tarps, and timely loading of excavated soils and other wastes into sealable containers, drums, or dump trucks for off-Site disposal. If nuisance odors are identified at the Site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated.

NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the Site developer, and any measures that are implemented will be discussed in the subsequent Periodic Review Report.

All necessary means will be employed to prevent on-Site and off-Site nuisances. At a minimum, these measures will include:

(a) limiting the area of open excavations and size of soil stockpiles;

(b) shrouding open excavations with tarps and other covers; and

(c) using foams to cover exposed odorous soils.

If odors develop and cannot be adequately controlled, additional means to eliminate odor nuisances will include:

(a) direct load-out of soils to trucks for off-Site disposal;

(b) use of chemical odorants in spray or misting systems; and,

(c) use of staff to monitor odors in surrounding properties/neighborhoods.

If nuisance odors develop during construction activities that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

C-12 DUST CONTROL PLAN

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Section C-10. If particulate levels at the Site exceed the thresholds listed in the CAMP or if airborne dust is observed on the Site or leaving the Site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the Site. A dust suppression plan that addresses dust management during invasive on-Site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing, or topsoil stripping will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel, with watering/wetting, as needed, will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water truck wetting/watering.
- be limited in total area to minimize the area required for water truck sprinkling.

APPENDIX D

Template Inspection and Monitoring Forms

SITE-WIDE INSPECTION **Day: _____ Date: _____**

NYSDEC		Temperature: (F)	F	(am)	F	(pm)
Site Owner: _____ **Current Site Use: _____**		Wind Direction/Speed:		(am)		(pm)
KESSMAN LANDFILL SITE **NYSDEC Site # 340011**		Weather:	(am) (pm)			
Patterson, New York		Arrive at site		(am)		
		Leave site:		(pm)		

Site Security

Evidence of vandalism (fence, gate, wells):

Evidence of digging:

General site condition (fence, gate, wells, vegetative cover):

Additional Comments:

SITE-WIDE INSPECTION **Day: _____ Date: _____**

Vegetative Cover

Evidence of vegetation mortality:

Evidence of erosion/dust:

Additional Comments:

Site Drainage

Evidence of ponding within retention area:

Evidence of site runoff:

Additional Comments:
Site Monitoring Wells
Are there any new cracks in the concrete collars of the site related MWs?
Are monitoring wells locked?
Do monitoring wells have caps?
Are the private wells operational?

Report No. ### **Kessman Landfill Site - NYSDEC Site No. 340011** Date:

NYSDEC Division of Environmental Remediation	NYSDEC Contract No.
Site Location:	Superintendent:
	NYSDEC PM:
	Consultant PM:
	Consultant Site Inspectors:

Weather Conditions				
General Description		AM		PM
Temperature		AM		PM
Wind		AM		PM

Health & Safety
If any box below is checked "Yes", provide explanation under "Health & Safety Comments".

Were there any changes to the Health & Safety Plan?	*Yes	No	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	NA
Were there any nuisance issues reported/observed on this date?	*Yes	No	NA

Health & Safety Comments

Summary of Work Performed	Arrived at site:		Departed Site:	

Equipment/Material Tracking
If any box below is checked "Yes", provide explanation under "Material Tracking Comments".

Were there any vehicles which did not display proper D.O.T numbers and placards?	*Yes	No	NA
Were there any vehicles which were not tarped?	* Yes	No	NA
Were there any vehicles which were not decontaminated prior to exiting the work site?	* Yes	No	NA

Personnel and Equipment

Individual	Company	Trade	Total Hours

Equipment Description	Contractor/Vendor	Quantity	Used

Material Description	Imported/ Delivered to Site	Exported off Site	Waste Profile (If Applicable)	Source or Disposal Facility (If Applicable)	Daily Loads	Daily Weight (tons)*

*On-Site scale for off-site shipment, delivery ticket for material received

Equipment/Material Tracking Comments:

Visitors to Site

Name	Representing	Entered Exclusion/CRZ Zone	
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No

Site Representatives

Name	Representing

Project Schedule Comments

Issues Pending

Interaction with Public, Property Owners, Media, etc.

Include (insert) figures with markups showing location of work and job progress

Site Photographs (Descriptions Below)	

Comments	
Site Inspector(s):	**Date:**

DAILY HEALTH CHECKLIST

Is social distancing being practiced?	Yes ☐	No ☐
Is the tail gate safety meeting held outdoors?	Yes ☐	No ☐
Are remote/call in job meetings being held in lieu of meeting in person where possible?	Yes ☐	No ☐
Were personal protective gloves, masks, and eye protection being used?	Yes ☐	No ☐
Are sanitizing wipes, wash stations or spray available?	Yes ☐	No ☐
Have any workers/visitors been excluded based on close contact with individuals diagnosed with COVID-19, have recently traveled to restricted areas or countries, or are symptomatic (fever, chills, cough/shortness of breath)?	Yes ☐	No ☐
Comments:		

REMEDIAL ACTIVITIES AT PROPERTIES

1. Have anyone at this location been tested and confirmed to have COVID-19?	Yes ☐	No ☐
2. Is anyone at this location isolated or quarantined for COVID-19?	Yes ☐	No ☐
3. Has anyone at this locaton had contact with anyone known to have COVID-19 in the past 14 days?	Yes ☐	No ☐
4. Does anyone at this locaton have any symptoms of a respiratory infection (e.g., cough, sore throat, fever, or shortness of breath)?	Yes ☐	No ☐
5. Does the Department and its contractors have your permission to enter the property at this time?	Yes ☐	No ☐
If Yes to any of 1-4 above: • If it is not critical that service/entry be carried out immediately and can be postponed until the risk of COVID-19 is lower, or can be accomplished remotely/without entry, postpone or conduct service without entry. • If it is critical that service/entry be carried out immediately, advise occupants that as a precaution and for our own protection, project personnel will be donning appropriate PPE* (including respiratory protection) - and do so prior to entry.	Yes ☐	No ☐

Comments:

NUISANCE CHECKLIST

Were there any community complaints related to work on this date?	Yes ☐	No ☐	N/A☐
Were there any odors detected on this date?	Yes ☐	No ☐	N/A☐
Was noise outside specification and/or above background on this date?	Yes ☐	No ☐	N/A☐
Were vibration readings outside specification and/or above background on this date?	Yes ☐	No ☐	N/A☐
Any visible dust observed beyond the work perimeter on this date?	Yes ☐	No ☐	N/A☐
Any visible contrast (turbidity) beyond engineering controls observed on this date?	Yes ☐	No ☐	N/A☐
Was turbidity checked at the outfall(s)?	AM ☐	PM ☐	N/A☐
Were any property owners NOT provided advance notice for work performed on this property on this date?	Yes ☐	No ☐	N/A☐
Was the temporary fabric structure closed at the end of the day?	Yes ☐	No ☐	N/A☐
Has Contractor failed to protect all foundations and structures adjacent to and adjoining the site which are affected by the excavations or other operations connected with performance of the Work?	Yes ☐	No ☐	N/A☐
If yes, has Contractor been notified?	Yes ☐	No ☐	N/A☐
Comments:			

RESILIENCE/GREEN REMEDIATION CHECKLIST

Is the site supplied with green power and is it properly installed and/or maintained?	Yes ☐	No ☐	N/A☐
Is the site employing 2007 or newer or retrofitted diesel trucks?	Yes ☐	No ☐	N/A☐
Is vehicle idling adequately reduced per 6NYCRR Part 217-3?	Yes ☐	No ☐	N/A☐
Is equipment properly maintained and operated by trained personnel?	Yes ☐	No ☐	N/A☐
Is work being sequenced to avoid double handling?	Yes ☐	No ☐	N/A☐
Is there an onsite recycling program for CONTRACTOR generated wastes and is it complied with?	Yes ☐	No ☐	N/A☐
Are office trailer heating and cooling systems maintained at efficient set points?	AM ☐	PM ☐	N/A☐
Are products and materials appropriately certified (e.g., LEED, Energy Star, Sustainable Forestry Initiative®, etc.)?	Yes ☐	No ☐	N/A☐

Are resiliency features included in the design or completed remedy properly installed and/or maintained (flood control, storm water controls, erosion measures, etc.)?	Yes ☐	No ☐	N/A☐
Are green remediation elements included in the design or completed remedy properly installed and/or maintained (e.g., porous pavement, geothermal, variable speed drives, native plantings, natural stream bank restoration, etc.)?	Yes ☐	No ☐	N/A☐
Are appropriate metrics documented for inclusion on Form A, Summary of Green Remediation Metrics, by the CONTRACTOR?	Yes ☐	No ☐	N/A☐
Has Contractor been notified of any deficiencies?	Yes ☐	No ☐	N/A☐
Comments:			

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME		LOCATION ID	DATE
PROJECT NUMBER		START TIME	END TIME
SAMPLE ID	SAMPLE TIME	SITE NAME/NUMBER	PAGE OF

WELL DIAMETER (INCHES) ☐ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER _____

TUBING ID (INCHES) ☐ 1/8 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ 5/8 ☐ OTHER _____

MEASUREMENT POINT (MP) ☐ TOP OF RISER (TOR) ☐ TOP OF CASING (TOC) ☐ OTHER _____

WELL INTEGRITY

	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

INITIAL DTW (BMP)	FT	**FINAL DTW (BMP)**	FT	**PROT. CASING STICKUP (AGS)**	FT	**TOC/TOR DIFFERENCE**	FT
WELL DEPTH (BMP)	FT	**SCREEN LENGTH**	FT	**PID AMBIENT AIR**	PPM	**REFILL TIMER SETTING**	SEC
WATER COLUMN	FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	GAL	**PID WELL MOUTH**	PPM	**DISCHARGE TIMER SETTING**	SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	GAL	**DRAWDOWN/ TOTAL PURGED**		**PRESSURE TO PUMP**	PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	BEGIN PURGING									

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED
☐ PERISTALTIC	☐ LIQUINOX	☐ SILICON TUBING	☐ S. STEEL PUMP MATERIAL	☐ WL METER
☐ SUBMERSIBLE	☐ DEIONIZED WATER	☐ TEFLON TUBING	☐ PVC PUMP MATERIAL	☐ PID
☐ BLADDER	☐ POTABLE WATER	☐ TEFLON LINED TUBING	☐ GEOPROBE SCREEN	☐ WQ METER
	☐ NITRIC ACID	☐ HDPE TUBING	☐ TEFLON BLADDER	☐ TURB. METER
☐ WATTERA	☐ HEXANE	☐ LDPE TUBING	☐ OTHER	☐ PUMP
☐ OTHER	☐ METHANOL	☐ OTHER	☐ OTHER	☐ OTHER
☐ OTHER	☐ OTHER	☐ OTHER	☐ OTHER	☐ FILTERS NO. ___ TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED YES ☐ NO ☐

NUMBER OF GALLONS GENERATED _____

NO-PURGE METHOD UTILIZED YES ☐ NO ☐

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Print Name:

Checked By: Date:

APPENDIX E

Green Remediation Metrics

Green Remediation Recommendations

The following green remediation measures are proposed for the RSO implementation, periodic cap repair work (conducted on an as-needed basis) and routine inspection events. These measures adhere to the NYSDEC policies in CP-49 (Climate Change and DEC Action), DER-31 (Green Remediation), CP-75 (DEC Sustainability) and Section 1.14 of DER-10 (Technical Guidance for Site Investigation and Remediation). Certain recommendations are from United States Environmental Protection Agency (USEPA) guidance for best management practices, including Best Management Practices for Excavation and Surface Restoration (EPA 542-F08-012). The recommendations are separated into several categories including materials requirements, general Site requirements, equipment requirements, and Site restoration and revegetation requirements.

MATERIALS RECOMMENDATIONS

The RSO implementation should consider and incorporate the use of the following materials to the extent practicable:

- Use Compact Fluorescent Lights (CFL) or LED.
- Reuse PVC Pipe.
- Use environmentally friendly electronics (e.g., ENERGY STAR).
- Use of items composed of recovered materials such as recycled asphalt, concrete, and rubble; recycled wood including mulch products; recycled metals including steel, copper, and brass; and items/products composed of recycled cardboard.
- Use of items constructed using renewable resources such as biomass energy (such as ethanol), hydropower, geothermal power, wind energy, and solar energy.
- Use bio-based cleaning products.
- Use bio-based dust controls and dust suppressants: Products formulated to reduce or eliminate the spread of dust associated with gravel roads, dirt parking lots, open excavations, stockpiled materials or similar sources of dust. Provide minimum 85% biobased content.
- Use geotextile fabrics/tarps made of recycled material.
- Use hydraulic fluids that are biodegradable for operating hydraulic equipment such as excavators, bulldozers, and drill rigs.
- Use phosphate-free detergents instead of organic solvents or acids to decontaminate equipment not used directly for sample collection.
- Substitute temporary silt fences with biodegradable erosion controls such as tubular devices filled with organic materials.
- Products must be certified environmentally clean before delivery to the project Site. Engineer's approval should be required for all products.

PROCEDURAL/PROCESS RECOMMENDATIONS

The RSO implementation should consider and incorporate the following general Site procedures and best management practices to the extent practicable:

- Set up an on-Site recycling program for CONTRACTOR-generated wastes.
- Provide all required documentation in electronic format, eliminating the need for printing, inks, paper, and mail/delivery impacts.
- Sequence work to minimize double-handling (e.g., direct loading of waste, direct placement of backfill, etc.) of materials.
- Provide locally made materials that are composed of recovered materials to the maximum amount practicable.
- Provide materials that generate the least amount of pollution during mining, manufacturing, transport, installation, use and disposal.
- Maintain office trailer heating and cooling systems at efficient set points. Utilize renewable energy for trailer power and lighting when possible.
- Avoid materials that contain ozone-depleting chemicals (e.g., CFCs or HCFCs) and that emit potentially harmful volatile organic compounds (VOCs).
- Employ construction practices that minimize the generation of excessive dust and combustion by-products.
- Minimize use of scarce, irreplaceable and endangered resources.
- Reduce impact to land and ecosystems, to the extent practicable.
- Reuse treated wastewater for non-potable uses on-Site including sanitary facilities, dust control, decontamination, and other uses. Contain and reuse water on site, to the extent practicable, as approved by the NYSDEC.
- Ensure temporary facilities (i.e., field offices and sanitary facilities, etc.) and permanent structures (i.e., treatment plants, offices, etc.) are thoroughly and properly insulated.
- Design structures to take full advantage of passive solar heating and cooling.
- Incorporate green requirements into cleanup and supporting service procurements.
- Choose service providers with local offices, to minimize the distance of worker commutes and machinery transport.
- Choose equipment and product vendors with nearby production or distribution centers, to minimize delivery-related fuel use.

EQUIPMENT RECOMMENDATIONS

The following requirements for on-Site equipment should be implemented during the RSO work to ensure the work follows best management practices (BMPs):

- Minimize equipment engine idling.
- Utilize properly sized equipment and minimize the number of mobilizations needed to deliver and remove heavy equipment. Utilize an automated coupling system for equipment, rather than a manual pin-on system for changing excavator attachments, to reduce machine operating time.
- Use machine models capable of performing assorted tasks, whenever feasible, to avoid field deployment of multiple types of machines. For instance, a single excavator can be equipped with a bucket for digging, a breaker for demolition or a grapple for land clearing.
- Incorporate electronic intelligence systems to improve productivity within and among field machines. “Smart” systems enable work managers to remotely monitor field operations via machine-to-machine communications and identify changes to be made by machinery operators accordingly.
- Use machines with variable-speed control technology, which automatically reduces engine speed during low workload requirements, or with pump torque control, which allows a machine operator to change a machine’s hydraulic pump torque.
- Use machines with repowered or newer engines that are more fuel efficient.
- Implement an engine idle reduction plan to avoid fuel consumption when machinery is not actively engaged. Options include manual shutdown after a specified time such as five minutes, engagement of automatic shutdown devices, or use of auxiliary power units to heat or cool machinery cabs.
- Minimize emissions during Site work (i.e., replace or retrofit older engines or use newer efficient models or use low-sulfur fuel).
- Deploy direct-push technology (DPT) instead of rotary drilling rigs whenever feasible for additional subsurface sampling or for monitoring well installation. DPT can reduce drilling duration by as much as 50-60% while minimizing generation of drill cuttings or the need to dispose of drilling fluids.
- Employ transportation methods, such as rail, which have demonstrated low emissions.
- Choose trucking methods and fleets that use vehicles equipped with fuel efficiency options such as tractor trailer skirts and air tabs, as well as clean diesel technology.
- Practice engine maintenance in accordance with manufacturers’ standards and properly train operators to run equipment efficiently.

- Perform all required equipment inspections to reduce the potential for breakdowns, hydraulic fluid spills, and other negative impacts due to lack of inspections.
- Use 2007 or newer diesel trucks or retrofitted diesel trucks with equivalent emissions reductions that get better fuel mileage, reduce air toxics and use low sulfur fuel or alternative fuel.
- Identify on-Site or nearby sources of backfill and topsoil, to avoid long-distance transport of clean soil.
- Use solar power packs to recharge batteries in small electronic devices such as small hand tools, cell phones, laptop computers and sensors.
- Deploy mobile power systems to operate construction equipment or tools such as electricity generators, chainsaws, wood chippers, refrigeration units, or temporary lighting fixtures. Use maneuverable photovoltaic (PV) panels or small wind turbines that can be easily transported via carts, pick-up trucks or trailers.
- Install a ground-mounted PV array, wind turbine or mechanical windmill to power equipment needed for long-term Site monitoring or maintenance. Properly scale and configure such equipment to provide power to other remediation equipment if possible.
- Use high efficiency variable speed pumps for groundwater extraction and treatment plant operations.
- Optimize the dewatering treatment system using properly sized equipment to minimize excess energy usage.

RESTORATION AND REVEGETATION RECOMMENDATIONS

The Site must be restored upon completion of the RSO work. The restoration should include the re-planting of vegetation to stabilize the cap and provide the required habitats and ecosystem in the wetland areas. The wetlands plantings include a diverse mixture of trees and grass that will require inspection and maintenance until they are established.

The following requirements for restoration and revegetation should be implemented during the RSO work to ensure the work follows best management practices (BMPs):

- Revegetate backfilled areas as quickly as possible through use of a diverse mix of grasses, shrubs, forbs and trees supporting many habitat types.
- Replant the wetlands areas using the wetlands seed mixture and the tree plantings species and quantities specified on Drawing C-110 in the RSO design package.
- Include plant species that promote colonization of bees and other pollinators.
- Seed or install native rather than non-native species, which typically increases the rate of plant survival and minimizes the need for irrigation and soil or plant fertilization.

- Choose grass species requiring little or no mowing.
- Substitute chemical fertilizers, herbicides or pesticides with non-synthetic inputs, integrated pest management methods, and soil solarizing techniques during vegetation planting, transplanting or ongoing maintenance.
- Retrieve native, noninvasive plants for later replanting.

SITE INSPECTION RECOMMENDATIONS

The leachate collection system, landfill gas venting system, landfill cap and the restored wetlands will require periodic inspections and upkeep to ensure they remain effective in protecting human health and the environment.

The following requirements for restoration and revegetation should be implemented as part of the RSO work to ensure the work follows best management practices (BMPs):

- Use of energy efficient or electric vehicles for personnel transport to the Site.
- Use local vendors to provide equipment and materials needed for Site inspection and maintenance.
- Use local businesses to conduct routine landscaping activities and minimize landscaping visits to the extent practicable while maintaining safe conditions at the Site.
- Compost or spread grass clippings and leaf debris on-Site to be used as fertilizer for subsequent growth, reducing off-Site waste disposal and the importation of chemical fertilizers.
- If leachate and landfill gas monitoring show the need for frequent Site inspections, consider the installation of a solar powered telemetry system to provide on-demand information from in-situ data loggers. Data loggers could be employed to measure leachate elevation within the landfill and methane concentrations in the LFG vent stacks or in-situ monitoring points.
- Consider the use of passive diffusion bags for routine groundwater sampling events. This will reduce the amount of purge water generated, the amount of time spent on-Site and the need for groundwater purging equipment.

APPENDIX F

Generic Field Activities Plan

(under separate cover)

APPENDIX G

Generic Health and Safety Plan

(under separate cover)

APPENDIX H

Generic Quality Assurance Project Plan

(under separate cover)