CROSS-COUNTY SANITARY/KESSMAN LANDFILL

PUTNAM COUNTY

PATTERSON, 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

Prepared by:

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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC 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
3	10/2024	Updates include: update document format (all); remedial construction completed (Site History); Engineering Controls to include 4 additional EC areas; Inspection and Monitoring programs, and descriptions of remaining contamination.	10/23/2024

OCTOBER 2024

CERTIFICATION STATEMENT

I, Kevin D. Sullivan, certify that I am currently a NYS 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) and Green Remediation (DER-31).

Kevin D. Sullivan, P.E.	10/24/2024	
License No. 073712	Date	Signature

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SITE MANAGEMENT PLAN

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LIST OF ACRONYMS AND ABBREVIATIONS

ABB-ES	ABB Environmental Services
AMSL	Above Mean Sea Level
AZTECH	Aztech Technologies, Inc.
BCL	Bentomat Clay Liner
BGS	Below Ground Surface
BMP	Best Management Practice
BSS	Below Sediment Surface
BTOC	Below Top of Casing
CAMP	Community Air Monitoring Plan
CCS	Cross-County Sanitation, Inc.
CCVA	Climate Change Vulnerability Assessment
CDM	Camp, Dresser, & McKee, Inc.
CEA	Critical Environmental Area
CFR	Code of Federal Regulations
COC	Chain of Custody
DER	Division of Environmental Remediation
DER-10	Technical Guidance for Site Investigation and Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
EDD	Electronic Data Deliverable
EE	Environmental Easement
E&IC	Engineering and Institutional Control
ELAP	Environmental Laboratory Accreditation Program
EWP	Excavation Work Plan
FAP	Field Activities Plan
FER	Final Engineering Report
FS	Feasibility Study
FT	Feet
FWRIA	Fish and Wildlife Resource Impact Analysis
GCL	Geosynthetic Clay Liner
GPM	Gallon Per Minute
GRCA	Green Resiliency Corrective Action
HASP	Health and Safety Plan
HDPE	High-Density Polyethylene
IC	Institutional Control
IEG	Iyler Environmental Group, PLCC
IRM	Interim Remedial Measure
mg/kg	Milligram per Kilogram
MTA	Metropolitan Transportation Authority

NAPL	Non-Aqueous Phase Liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCRR	New York Codes, Rules and Regulations
OBG	O'Brien & Gere Engineers, Inc.
OM&M	Operations, Maintenance and Monitoring
PCBs	Polychlorinated Biphenyls
PE	Professional Engineer
PEM	Palustrine Emergent Wetland
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
PPE	Personal Protective Equipment
PPM	Parts Per Million
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
RAO	Remedial Action Objective
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RP	Remedial Party
RSO	Remedial System Optimization
SCG	Standards, Criteria and Guidance
SCO	Soil Cleanup Objective
SGV	Standards and Guidance Values
SL	Screening Level
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
TOC	Total Organic Carbon
TRC	TRC Engineers, Inc.
TSCA	Toxic Substances Control Act
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Services
VOC	Volatile Organic Compound
WEHRAN	Wehran Engineering, P.C.

ES 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 inspections, monitoring, maintenance, and reporting activities required by this Site Management Plan (SMP):

Site Identification: NYSDEC Site Registry No. 3-40-011
Cross-County Sanitary/Kessman Landfill Site
286 Cornwall Hill Road, Patterson, Putnam County, New York

Institutional and Engineering Controls	
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 alters the effectiveness 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, landfill gas, NAPL, and contaminated groundwater.
	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) paragraphs 375-1.8(g)(2)(iii and iv), respectively. 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.

Institutional and Engineering Controls (cont'd)	
Institutional Controls (cont'd):	It is a violation of 6 NYCRR paragraph 375-1.9(c)(3) to use the Property in a manner inconsistent with the Environmental Easement.
	The Site shall be (and/or remain) listed in the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites.
	This SMP shall be complied with by the Grantor and the Grantor's successors and assigns.
	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 System, Monitoring Well Network, Passive Landfill Gas Vents, NAPL Monitoring System, Landfill Waste Containment System, Bentomat Cap Area, and Soil Cap Area.
	All Engineering Controls on the Property must be operated, maintained, and inspected at a frequency and in a manner defined in this SMP.

Inspections, Monitoring, Maintenance, and Reporting	
Inspections:	**Frequency:**
Security Fencing	Site-Wide Inspection conducted annually and following severe weather events. Town of Patterson is responsible for Landfill Cap mowing until March 2025. It is anticipated that the agreement with the Town of Patterson will be extended to continue mowing of the Landfill Cap, or other arrangements will be made, as appropriate.
Landfill Cap	
Leachate Collection System	
Monitoring Well Network	
Passive Landfill Gas Vents	
Wetland Area	

Inspections, Monitoring, Maintenance, and Reporting (cont'd)	
Inspections (cont'd):	**Frequency:**
Site Access Road	After Department approval of this SMP, inspections to be performed quarterly for an initial 12-month period and annually thereafter through the post-Remedial Construction reporting period. The quarterly and Annual Site Inspections and severe weather inspections will include all Engineering Controls and Institutional Controls listed.
NAPL Monitoring System	
Landfill Waste Containment System	
Bentomat Cap Area	
Soil Cap Area	
Monitoring:	**Frequency:**
Water Level Monitoring of Monitoring Wells	Water level monitoring annually, or as directed otherwise by NYSDEC. The annual monitoring events will include new replacement wells MW-R20A and MW-R20B (installed January 2024) to the previous list of monitoring wells.
Groundwater Monitoring	Groundwater sample collection and analysis annually, or as directed otherwise by NYSDEC. Annual events will add sampling and analysis of new replacement wells MW-R20A and MW-R20B to the previous monitoring well list. Sampling and analysis of aqueous phase liquid in the observation sumps (3) will be performed if no NAPL is present (i.e., less than 0.01-foot), but evidence of potential contamination (visual, sheen, instrument reading, or olfactory) is observed during inspections. The sampling will be conducted as part of the quarterly water monitoring program commencing after Department approval of this SMP and annually thereafter if deemed necessary by NYSDEC.
Surface Water Monitoring	Surface water sample collection and analysis annually, or as otherwise directed by NYSDEC.
Sediment Monitoring	Sediment sample collection and analysis one year after Department approval of this SMP, or as otherwise directed by NYSDEC.

Inspections, Monitoring, Maintenance, and Reporting (cont'd)	
Monitoring (cont'd):	**Frequency:**
NAPL Inspections	Each of the observation sumps shall undergo quarterly monitoring to determine the presence and thickness of NAPL commencing after Department approval of this SMP and annually thereafter if deemed necessary by NYSDEC. NAPL, if present, will be removed, to the extent practicable, by manual techniques and/or the use of oil absorbent socks.
Maintenance:	**Frequency:**
Security Fencing	Maintenance provided as needed, based on inspections.
Landfill Cap	
Groundwater Monitoring Wells	
Passive Landfill Gas Vents	
Observation Sumps	
Wetland Area	
Soil Cap Area	
Site Access Road	
Reporting:	**Frequency:**
Site-Wide Inspection Report	Following each inspection event.
Monitoring Report	Summary memorandum following each event.
Periodic Review Report (PRR)	Next PRR is due sixteen (16) months after Department approval of this SMP. PRRs are due every three years thereafter.

1.0 INTRODUCTION

1.1 General

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.

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 (EE), provided in **Appendix A**.

After completion of the remedial construction work described in the Final Engineering Report, contamination in excess of the soil cleanup objectives (SCOs) was left in place within the limits of the covered landfill and within the shallow marsh area east of the landfill, which is hereinafter 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 EE 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 EE 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 Division of Environmental Remediation (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, as well as new ECs installed during additional remedial construction.

A full description of the Site and remediation chronology can be found in **Section 8.0** and in **Appendix A**.

1.2 Purpose

This SMP defines protocols for management of remaining contamination at the Site, after completion of the remedial action (RA). 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 final RA, including: (1) implementation and management of all ICs/ECs; (2) media monitoring; (3) operation and maintenance of the containment systems; and (4) performance of periodic inspections, certification of results, and submittal of PRRs.

To address these needs, this SMP includes two distinct plans: (1) an Institutional and Engineering Control Plan (**Section 3.0**) for implementation and management of ICs/ECs; and (2) a Monitoring and Sampling Plan (**Section 4.0**) 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 EE. Failure to properly implement the SMP is a violation of the EE; 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 EE 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 EE for contamination that remains at the Site. This plan has been approved by NYSDEC, and compliance with this plan is required by the EE. 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 1.4** of this SMP.

1.3 Revisions and Alterations

Revisions and alterations to this plan will be proposed in writing to the NYSDEC's project manager. The NYSDEC can also make changes to the SMP or request revisions from the remedial party. 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. All approved alterations must conform with Article 145 Section 7209 of the Education Law regarding the application of professional seals and alterations. For example, any changes to as-built drawings must be stamped by a NYS Professional Engineer. In accordance with the Notice of Recorded EE for the Site, the NYSDEC project manager will provide a notice of any approved changes to the SMP and append these notices to the SMP that is retained in its files.

1.4 Notifications

Notifications will be submitted by the respective 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 6 NYCRR Part 375, and/or the ECL;
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan presented in **Appendix C**. If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above mentioned 60-day advance notice is also required.
- Notice within 48 hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Notice within 48 hours of any non-routine maintenance activities.
- Verbal 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 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- 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 describing and documenting 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, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the Site, the new property owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Notifications will be made to:

Gail Dieter, Project Manager
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7017
Phone: (518) 402-9645 E-mail: Gail.Dieter@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

1.5 Contingency Plan

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

1.5.1 Emergency Telephone Numbers

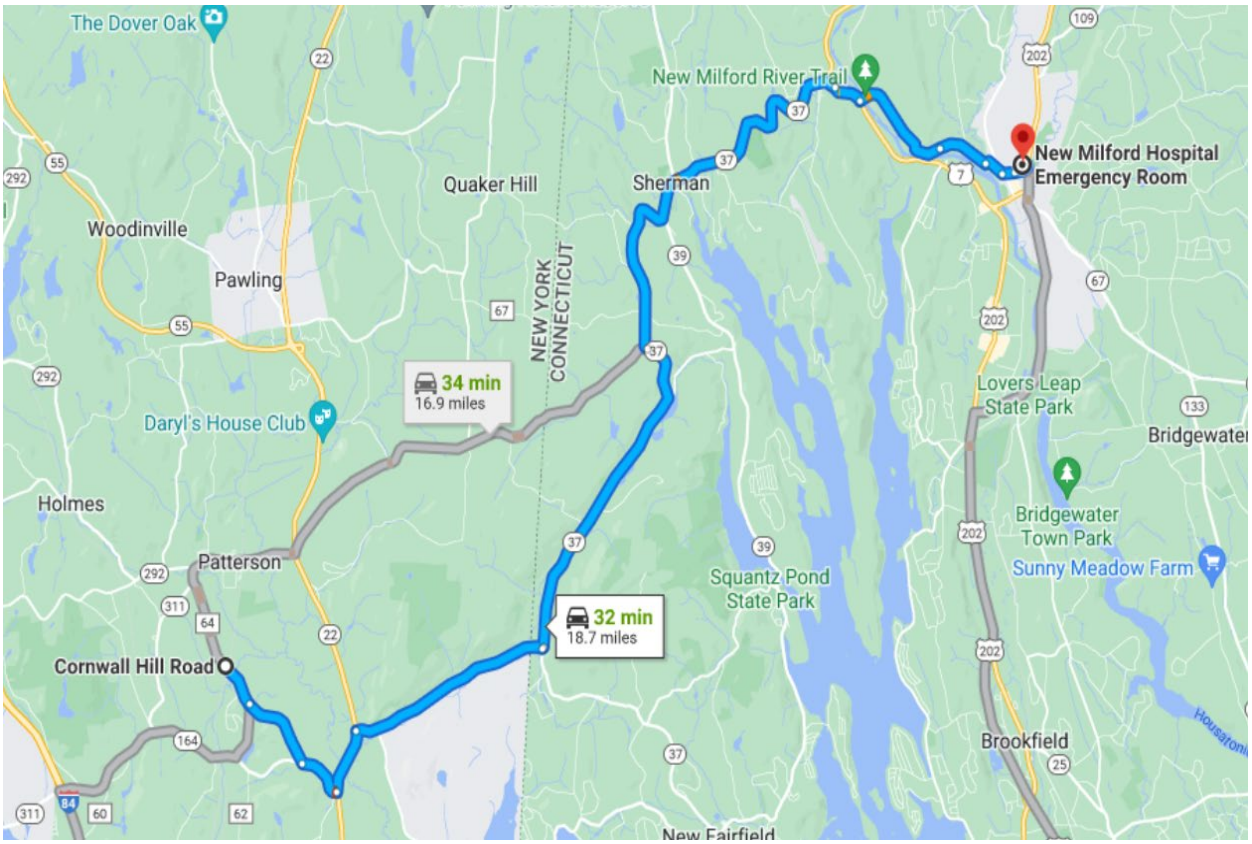
In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Property owner or owner's representative shall contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel shall be contacted. Prompt contact shall also be made to the NYSDEC project manager. The emergency contact list must be maintained and posted at the front gate of 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) 402-9645

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

1.5.2 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



1.5.3 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)**.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Background

2.1.1 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.

Conditions prior to the most recent remedial construction (2023) consisted of a shallow ponded wetland (approximately three to four feet deep) approximately 2.8-acres in size connected to a red maple/ash swamp which extended northward off-Site. The shallow ponded wetland is bordered by the capped landfill to the west and the railroad track ballast to the east. The intermittent/seasonal connection of the shallow ponded wetland to the Great Swamp is to the north, adjacent to the railroad. The shallow ponded wetland is surrounded by broadleaf cattails and a dense population of well-established invasive phragmite. As observed during pre-remedial construction activities, the phragmite dominated the shallow portions of the wetland. The wetland encompassed a deeper area which had predominantly remained covered with water throughout seasonal changes and remained void of phragmite. The invasive vegetation had historically populated areas of the wetland that would seasonally dry out at times of the year and flood during others. The population of phragmite extended far off-Site to the north and south as an understory in the red maple/ash swamp, and along a narrow strip of raised embankment abutting the railroad bed to the east.

Post-remedial construction (completed in 2024) the historic shallow open water ponded conditions were maintained, with the addition of native species of wetland grasses via application of an NYSDEC approved wetland seed mix. Additionally, seasonally ponded areas were restored with the planting of wetland species of Swamp White Oak trees, Pin Oak trees, Black Willow trees, Red Maple trees, and Button Bush shrubs, Pussy Willow shrubs, Red-Osier Dogwood shrubs, and

Swamp Azalea shrubs. The plant selections and designed placement around the wetland are to deter the repopulation of the surrounding biomass of dense impenetrable monoculture of phragmite to the shallow areas of the wetland while maintaining the deeper open water wetland area for the existing and repopulation of wetland animal species following the remedial construction activities.

2.1.2 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 Feasibility Study (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 RAs described in the ROD were performed by EPA, Inc. between August 1995 and September 1996 (hereinafter referred to as 1996 RA). Once these activities 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.

2.1.3 Geology

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 pit excavation 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).

2.1.4 Hydrogeology

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).

2.2 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 1992.

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.

2.3 Summary of Remedial Actions

To date, two RAs have been completed at the Site. The first RA (the 1996 RA), consisted of landfill capping and was completed in September 1996. The majority of the second RA (wetland remediation and restoration), also referred to as the RSO Remedial Construction, was completed in June 2024, with additional monitoring and maintenance ongoing. Each of these RAs is discussed in more detail below.

2.3.1 1996 RA – Landfill Capping

A FS Report 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 the project contract documents and specifications.

The following is a summary of the initial 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 were 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 sediment 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, were 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 Collection System was intended to function as 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 and one outlet was located and sealed during the RSO Remedial Construction in 2023.

2.3.2 RSO Remedial Construction – Wetland Remediation and Restoration

Following the completion of the initial remedial action, Site-related contamination was first detected in wetland sediment in 2003. This finding was the focus of ongoing monitoring and additional investigations, consisting primarily of delineation of PCB impacts in sediment and soil in and around the wetland area, conducted by NYSDEC between 2017 and 2019. The delineation activities led to the issuance of a RSO Report in 2020, which was prepared by TRC.

The RSO Report evaluated several alternatives for the remediation of PCB-contaminated sediment in the wetland area adjacent to the former landfill, with the selected remedy consisting of sediment removal and off-Site disposal. The project scope for the RSO Remedial Construction is described in detail in the project Contract Documents and specifications.

The following is a summary of the remedial actions performed to remediate the wetland area between 2023 and 2024:

In March 2023, the remedial construction phase began in the 1.6-acre wetland area adjacent to the east slope of the landfill. The construction phase mainly consisted of the following tasks:

- Mobilization;
- Wetland dewatering, water treatment, and upland discharge of treated water;
- Excavation, solidification and off-Site disposal of PCB-contaminated sediment;
- Excavation and off-Site disposal of waste encountered beyond the limits of the Landfill Cap;
- Installation of new ECs including:
    - Landfill Waste Containment System (to contain waste encountered beyond the limits of the Landfill Cap during remedial construction);
    - Non-Aqueous Phase Liquid (NAPL) Monitoring System (to monitor for and, if it accumulates, collect NAPL encountered during remedial construction and during post-remedial construction monitoring activities);

- Bentomat Cap installed over the NAPL Monitoring System; and
- Soil Cap Area installed over the remaining sediment with PCB contaminant levels above applicable standards and guidance values (SGVs).

- Restoration and Demobilization.

The RSO Remedial Construction was completed in June 2024 and the project has entered into the post-remediation monitoring and inspection/sampling phase.

2.4 Summary of Site Monitoring and Investigations Following the 1996 RA

Monitoring activities undertaken following completion of the initial 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 described in the 2020 RSO Report 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 – Characterization and delineation investigations were conducted by TRC and focused on confirming and expanding on 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; and
- November 2018 Investigation and Delineation Activities – Final delineation activities, conducted by TRC in November 2018, addressed remaining data gaps and the potential for contamination further off-Site to the north and east via "far-field" samples.

Summaries of the investigations are provided in the subsections below Detailed descriptions of the investigation are included in the 2020 RSO Report (**Appendix A**).

2.4.1 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.

2.4.2 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 Technologies, Inc. (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 initial remedial action.

2.4.3 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 was a potential source of 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 existed 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**).

2.4.4 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 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 was a potential source of 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**).

2.4.5 Wetland Resource Delineation

A resource delineation was conducted in accordance with the methodologies described in the United States Army Corps of Engineers 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 wetland (PEM) 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 2020 RSO Report (**Appendix A)**.

2.4.6 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 had been previously noted within one mile of the Site. Based on correspondence with the New York Natural Heritage Program, nine plants, one reptile, and one mammal that are State-listed had been documented in the vicinity of the Site.

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-mile 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 had 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*); and
- Narrow-leaved sedge (*Carex amphibola*).

The bog turtle (*Glyptemys muhlenbergii*) had previously been documented within 0.6-mile 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 was 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 were incorporated into the RSO Remedial Construction:

1. Education and encounter planning for Site workers who may come in contact with the bog turtle;
2. Installation of bog turtle exclusion barrier (double row of silt fence) 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 was 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 was 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 2020 RSO Report (**Appendix A)**. The results of the FWRIA indicated 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 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*) had also been previously documented within 0.5-mile to the north/northeast of the Site. This rabbit is State-listed as Special Concern. No specific protective measures were identified for this species.

2.4.7 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 were predicted to increase in frequency and/or intensity in the future due to the effects of climate change. The 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. 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 6.1 and 6.2**, and throughout this SMP. A copy of the CCVA Report is included in **Appendix A**.

2.5 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).

2.6 Remedial Actions Objectives

The Remedial Action 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; and
- Provide for attainment of Standards, Criteria, and Guidance (SCGs) values for groundwater quality at the limits of the area of concern.

2.7 Remaining Contamination

Following the 1996 RA, the remaining contamination consisted of all disposed and consolidated materials remaining within the footprint of the landfill. Contamination in the sediment and surface water in the wetland area east of the landfill was identified shortly following completion of the remedy and was the focus of the 2020 RSO Report (provided in **Appendix A)** and the subsequent RSO Remedial Construction completed in June 2024. The material removed under the implementation of the RSO Remedial Construction was disposed of off-Site. The limited contamination left in place in excess of the SCGs was isolated from other areas via the Soil Cap

Area, the Landfill Waste Containment System, and the Bentomat Cap. Since completion of the 1996 RA, no materials have been or will be in the future placed beneath the landfill cap.

Past and recent groundwater monitoring has demonstrated successful natural attenuation of groundwater contaminants. There were no detections of SVOCs or PCBs at concentrations above Class GA SGVs in any of the eight groundwater samples collected and analyzed during the groundwater monitoring events (2018, 2020, and 2022).

There were three VOCs detected above the SGVs (1,2-dichloroethane, benzene, and chlorobenzene), during the 2020 groundwater monitoring event. No VOCs were detected above Class GA SGVs in 2018 or 2022.

Per- and polyfluoroalkyl substances (PFAS) were detected above the 10 nanograms per liter (ng/L) Screening Levels (SLs) established in "Guidelines for Sampling and Analysis of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs" (January 2020), in four of the eight samples collected in 2018, five of the eight samples collected in 2020, and in four of the eight samples collected in 2022.

Perfluorooctanesulfonic acid (PFOS) was repeatedly detected in 2018, 2020, and 2022, at concentrations above the SL of 10 ng/L in the same 4 of the 8 locations sampled. There does not appear to be a consistent trending related to PFOS concentrations between 2018 and 2022.

Concentrations of perfluorooctanoic acid (PFOA) were also detected above the SL of 10 ng/L in 2018, 2020, and 2022 in the same locations that the exceedances of PFOS were detected. Overall, the concentrations of PFOA detected were relatively consistent between 2018 and 2022.

1,4-Dioxane was detected during all groundwater monitoring events, and, in general, the concentrations are comparable among the monitoring events. The only notable increase in 1,4-dioxane was detected at MW-20B: from 0.30 µg/L (2020) to 2.8 µg/L (2022). In March 2023, NYSDEC issued the final ambient water quality guidance value of 0.35 µg/L for 1,4-dioxane.

Several Target Analyte List (TAL) metals were detected at concentrations above the SGVs in samples collected during the 2020 and 2022 groundwater monitoring events, including iron, magnesium, manganese, sodium and thallium. TAL metals were not analyzed in the 2018 groundwater monitoring event.

Additional details regarding the groundwater quality monitoring results are presented in the "Periodic Review Report, October 2020 – August 2022" (September 2022) prepared by TRC.

Groundwater will continue to be monitored at the frequency described in **Table 2** during implementation of this SMP.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contamination exists beneath the Site, ICs/ECs are required to protect human health and the environment. This Institutional Control and Engineering Control (IC/EC) Plan describes the procedures for the implementation and management of the ICs/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC project manager.

This plan provides:

- A description of all ICs/ECs on the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs/ECs 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 ICs/ECs; and
- Any other provisions necessary to identify or establish methods for implementing the ICs/ECs required by the Site remedy, as determined by NYSDEC.

3.2 Institutional Controls

A series of ICs are 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. The 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, the NAPL Monitoring System, the Landfill Waste Containment System, the Bentomat Cap Area, or the Soil Cap Area, 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 paragraphs 375-1.8(g)(2)(iii and iv), respectively. 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 paragraph 375-1.9(c)3 to use the Property in a manner inconsistent with the EE;
- 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, sump, 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 EE may not be discontinued without an amendment to or extinguishment of the EE.

The Property is now classified as 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.

3.3 Engineering Controls

The ECs at the Site are passive components and do not require an Operation and Maintenance Plan. The ECs in place at the Site include the Security Fencing, Landfill Cap, Leachate Collection System, Monitoring Well Network, Passive Landfill Gas Vents, NAPL Monitoring System (including 2 observation sumps), Landfill Waste Containment System (including 1 observation sump), the Bentomat Cap Area, and the Soil Cap Area. The ECs implemented as part of the 1996 RA will be monitored with annual inspections as well as after severe weather events. Monitoring of ECs implemented in 2023-2024 will begin with quarterly inspections commencing after Department approval of this SMP. Inspections will continue on an annual basis thereafter, as well as after severe weather events. The Monitoring and Sampling Plan consists of groundwater, surface

water, and sump sampling (only if NAPL is not present, but evidence of potential contamination is observed) on a routine basis. The NAPL Monitoring System and Landfill Waste Containment System sumps will be inspected for the presence of NAPL. If measurable NAPL is observed (i.e., >0.01-foot thickness as measured by an oil/water interface probe), NAPL will be removed and disposed off-Site. Details of the Monitoring and Sampling Plan are discussed in **Section 4.0**.

3.4 Site Use

There shall be no construction, use or occupancy of the Property that results in the disturbance of the ECs, or excavation activities that may result in human exposure to Site contaminants, landfill gas, groundwater, or wetland sediments with remaining contamination unless prior written approval by NYSDEC is obtained. Notification of NYSDEC in accordance with **Section 1.4** shall precede any such work to allow time for review.

Maintenance of each parcel at the Site shall be the responsibility of the respective Property owners. 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.

Property owners shall not interfere with or take actions that reduce the effectiveness of the Site ECs (i.e., Security Fencing, Landfill Cap, Leachate Collection System, Monitoring Well Network, Passive Landfill Gas Vents, NAPL Monitoring System (and sumps), Landfill Waste Containment System, Bentomat Cap Area, and Soil Cap Area). In the event that a Property owner inadvertently damages or becomes aware of damage to any of the ECs, they shall promptly notify the NYSDEC contact listed in **Section 1.4** and in **Table 1**.

3.5 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 Sampling Plan schedule (**Table 2**). The inspections will determine and document the following:

- That the Property continues to be subject to the EE;
- 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 EE;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media, as required, during monitoring events;
- Site records are complete and up to date; and
- Changes implemented, or required, to the remedial or monitoring system.

Sampling will be conducted in accordance with the procedures set forth in the Monitoring and Sampling Plan (**Section 4.0**). The reporting requirements are outlined in the Periodic Review Report section of this plan (**Section 7.2**).

If an emergency, such as a natural disaster, an inspection of the Site will be conducted within five days of the event to verify the effectiveness of the ICs/ECs implemented at the Site by a Qualified Environmental Professional (QEP) as defined by NYSDEC.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling 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**.

4.1.1 Purpose and Schedule

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

- Sampling and analysis of all appropriate media (e.g., groundwater and surface water);
- Assessing compliance with applicable SCGs, particularly SGVs 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 Sampling 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 and NAPL observation sumps;
- 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 sampling programs are summarized in **Table 2** and described in **Sections 4.2** through **4.6,** inclusive**.** Reporting requirements are provided in **Section 7.0** of this SMP.

Table 2: Monitoring/Sampling Schedule			
Monitoring Program	**Frequency[(a)]**	**Location**	**Analysis/Area**
Groundwater	Annually	• MW-1A • MW-1B • MW-3A • MW-3B • MW-5A • MW-5B • MW-R20A • MW-R20B	• 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
	Quarterly (4 rounds commencing after Department approval of this SMP) Annually thereafter	• If no NAPL is present (less than 0.01-foot), but there is evidence of potential contamination (visual, sheen, olfactory, or instrument), collect aqueous phase liquid from NAPL Monitoring System and Landfill Waste Containment System observation sumps (up to a total of 3)	• TCL VOCs via SW846 8260 – Low Level (including 1,4-Dioxane by SIM) • TCL SVOCs via SW846 8270 • TCL PCBs via SW846 8082 • TAL Metals via SW846 6010/7470A/9010 • Total Suspended Solids via Method 160.2 • TOC via Method 415.1 • PFAS Analyte List by Modified USEPA Method 1633
Surface Water	Annually	• 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 SW846 6010/7470A/9010 • Total Suspended Solids via Method 160.2 • TOC via Method 415.1 • PFAS Analyte List by Modified USEPA Method 1633
Sediment	One round commencing one year after Department approval of this SMP	• 5 Locations - 4 within the sediment remediation area (2 within Bentomat Cap Area) - 1 outside the sediment remediation area	• TCL VOCs via SW846 8260 • TCL SVOCs via SW846 8270 • TCL PCBs via SW846 8082 • TAL Metals via SW846 6010/7470A/9010

Table 2: Monitoring/Sampling Schedule			
NAPL (Removed from Sumps)	Quarterly inspections (4 rounds commencing after Department approval of this SMP) Annual inspections thereafter Inspection after a significant storm event	• NAPL Monitoring System (2 sumps) • Landfill Waste Containment System (1 sump)	• Waste Characterization Parameters, including TCL PCBs, and other parameters as required by the NYSDEC-approved disposal facility
Engineering Controls	Initial quarterly inspections (4 rounds commencing after department approval of this SMP) Annual inspections thereafter Inspection after a significant storm event	Controls Installed in 2023-2024	• NAPL Monitoring System • Landfill Waste Containment System • Bentomat Cap Area • Soil Cap Area
Site-Wide Inspection	Annually After a significant storm event	Landfill Infrastructure	• Security Fencing • Landfill Cap (erosion, vegetative quality) • Leachate Collection System • Monitoring Well Network • Passive Landfill Gas Vents • Wetland Area • Site Access Road and Gravel Roadways

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

4.2 Site-Wide Inspection

Site-wide inspections will be performed quarterly or annually as noted in **Table 2**, and after all severe weather events that may affect ECs. During these inspections, the Daily Inspection Report form will be completed using the Site-wide inspection form provided in **Appendix D**. The form will compile sufficient information to assess the following:

- Compliance with ICs, including Site use;
- 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.

In accordance with DER-10, Site inspections will include an assessment of the Site Engineering Controls, including the following:

- Security Fencing;
- Landfill Cap;
- Leachate Collection System;
- Monitoring Well Network;
- Passive Landfill Gas Vents;
- NAPL Monitoring System;
- Landfill Waste Containment System;
- Bentomat Cap Area; and
- Soil Cap Area.

Corrective action will be scheduled if damage to an EC is observed during a routine or post-storm inspection. 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.

4.3 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	Top of Riser Elevation (ft amsl)	Bottom of Screen Elevation (ft amsl)	Screen Length (ft)	Screen Interval (ft btor)	Total Depth (ft btor)	
					1994	2024[5]
MW-1A	462.57[1]	403.90[3]	5[3]	54.28 – 59.28[3]	59.28[3]	59.97
MW-1B	462.28[1]	440.00[3]	5[3]	18.05 - 23.05[3]	23.05[3]	23.52
MW-3A	433.70[1]	364.50[3]	5[3]	66.54 - 71.54[3]	71.54[3]	58.67
MW-3B	435.12[1]	402.00[3]	5[3]	28.83 - 33.83[3]	33.83[3]	34.17
MW-5A	433.40[1]	360.90[3]	5[3]	67.68 - 72.68[3]	72.68[3]	70.96
MW-5B	432.88[1]	402.20[3]	5[3]	27.06 - 32.06[3]	32.06[3]	30.15
MW-R20A	435.79[4]	402.79[4]	10[4]	23.00 – 33.00[4]	N/I	28.83
MW-R20B	435.81[4]	413.81[4]	10[4]	12.00 – 22.00[4]	N/I	22.78

Notes:
ft = feet
amsl = above mean sea level
btor = below top of riser
N/A = information not available
N/I = well was not installed at this time
[1] = based on July 2020 survey information
[2] = based on January 2024 ESG survey information
[3] = based on 1994 Remedial Investigation Report (RIR) data
[4] = based on 2024 ESG reporting
[5] = based on depths measured by TRC on 7/17/24 - 7/18/24

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 construction details for the recently installed monitoring well is provided in **Appendix B**.

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

4.3.1 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 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 0.01 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, dissolved oxygen, redox potential, 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 field duplicate, one equipment blank, one matrix spike, and one 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. PFAS-free water will be utilized in the trip blanks and for the collection of equipment blanks.

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 FAP provided in **Appendix F** and the Generic QAPP provided in **Appendix H**, respectively.

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

4.3.2 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 in accordance with CP-43, Groundwater Monitoring Well Decommissioning Policy, and replaced as necessary.

The NYSDEC project manager 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 replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC project manager. Replacement wells shall be constructed using methods consistent with those used during previous investigations or with approval of NYSDEC project manager.

4.3.3 NAPL Inspections and Sump Sampling

Each of the observation sumps associated with the NAPL Monitoring System (2) and the Landfill Waste Containment System (1) will be inspected for the presence of NAPL using an oil/water interface probe, and observations of odors and/or evidence of a sheen will be documented along with the depth to water contained within each sump. Inspections will initially be performed on a quarterly basis (commencing after Department approval of this SMP) and annually thereafter as noted in **Table 2**, to assess the performance of the remedy. Figure 2 illustrates the locations of the new ECs installed in 2023-2024 and each of the 3 observation sumps. It should be noted that the sumps are located in low-lying areas and may be situated in standing/frozen water during various times of the year. Additional equipment and PPE may be required to safely access, inspect, and sample the sumps.

If measurable NAPL is not observed in a sump (i.e., less than 0.01-foot), but evidence of potential contamination is detected (e.g., visual, instrument reading, or olfactory), an aqueous grab sample will be collected using a dedicated disposable bailer or peristaltic pump. Samples will be analyzed for the parameters listed in **Table 2**.

If measurable NAPL is observed in a sump, the following will be implemented:

a) If measurable NAPL is less than one inch in thickness, an oil absorbent sock will be installed in the sump; or

b) If measurable NAPL is more than one inch in thickness, NAPL will manually be removed using appropriate equipment (e.g., disposable bailer, peristaltic pump, or other device) to the extent possible and containerized. An oil absorbent sock will be installed in the sump after NAPL recovery.

NYSDEC will be notified of the NAPL observations and mitigative measures implemented after each monitoring event.

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

Recovered NAPL, used absorbent socks, and disposable NAPL removal equipment will be containerized and stored in an appropriate staging area as approved by NYSDEC. The waste will be managed in accordance with **Section 4.8** of this SMP.

4.4 Surface Water Monitoring

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

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

4.4.1 Sampling Protocol

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 Environmental Laboratory Accreditation Program (ELAP)-certified) laboratory. The samples will be analyzed within the applicable holding time for the respective laboratory analytical methods (**Table 2**). One field duplicate, one equipment blank, one matrix spike, and one 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. PFAS-free water will be utilized in the trip blanks and for the collection of equipment blanks.

4.5 Sediment Monitoring

One round of sediment monitoring will be performed one year after Department approval of this SMP, to assess the performance of the remedy. The need for additional sampling will be assessed after the evaluation of the results. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager. Four (4) samples will be collected within the sediment remediation area, and one (1) sample will be collected north of the sediment remediation area. Two (2) of the sampling locations in the sediment remediation area will be within the footprint of the Bentomat Cap Area. **Figure 2** illustrates the sediment sampling locations.

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

4.5.1 Sampling Protocol

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. One field duplicate, one equipment blank, one matrix spike, and one

matrix spike duplicate will be collected for analysis. The samples will be placed on ice and shipped, under chain of custody, to a NYSDEC-approved laboratory. All samples will be analyzed within the applicable holding time for the respective laboratory analytical methods (**Table 2**).

4.6 Landfill Gas Vent Monitoring

While landfill gas vent samples will not be collected for laboratory analysis, a VRAE Multi-Gas Meter, GEM Landfill Gas Monitor, or similar hand-held instrument will be used to monitor gas being emitted from the Passive Landfill Gas Vents on an annual basis. **Figure 2** illustrates the approximate locations of the landfill gas vents.

4.7 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.

4.8 Storage and Disposal of Waste

The sampling team will be responsible for the proper storage, handling, and disposal of investigation-derived waste including personal protective equipment, solids and liquids generated during the well drilling, well development, and well sampling activities, and NAPL and disposable equipment used to remove NAPL from the sumps.

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;
- NAPL recovered from sumps and disposable equipment used to remove NAPL from the sumps (e.g., oil absorbent socks, tubing, bailers, etc.) will be collected in drums or other containers at the point of generation. The drums will be stored in an appropriate staging area approved by NYSDEC. This waste will require sampling and waste characterization analysis to determine proper disposal, including analysis for TCL PCBs. A waste disposal

contractor will remove the drums/containers and dispose of the NAPL and associated investigation-derived waste at a NYSDEC-approved off-Site facility; and

- Non-contaminated trash, debris, and PPE will be placed in a trash dumpster and disposed of by a local garbage hauler.

4.9 Laboratory Analysis

Groundwater, sediment, and surface water samples and NAPL will be analyzed by a NYSDOH ELAP-certified laboratory for the USEPA method-based analyses listed in **Table 2**. Analysis for additional parameters may be required for waste characterization of NAPL/NAPL-contaminated equipment for off-Site disposal, based on the requirements of the NYSDEC-approved disposal facility. 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).

4.10 Monitoring Quality Assurance/Quality Control

Sampling and analyses will be performed in accordance with the Generic QAPP (**Appendix H**). Special precautions, in accordance with the SOPs in the Generic FSP, will be taken when collecting samples for PFAS analysis. Sample analysis will be conducted by a laboratory that is accredited pursuant to the NYSDOH 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; and
    - Field QC samples (e.g., trip blanks, equipment blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected, as necessary.
- Sample tracking and custody;
    - Evidence of the sample tracking from collection to shipment, laboratory receipt, and laboratory custody must be properly documented;
    - Chain-of-Custody procedures have been developed to direct personnel in the sample custody procedure requirements associated with field sample collection and sample tracking. Other State or federal requirements may be beyond the scope of the procedures and should be followed, if applicable. Sample custody procedures

are an important part of the field investigation program to maintain data quality and to be able to document proof of proper handling and tracking;

- Sample custody begins at the collection of the samples and continues until the samples have been analyzed. Examples of items utilized when implementing sample tracking and custody are; use of a project dedicated field book, laboratory Chain of Custody forms (COCs), sample labels or sample identification tags, custody seals, use of indelible ink pens/markers, laboratory supplied and/or approved clean zip lock sample bags, and the use of dedicated sample coolers; and
- Laboratories will provide a sample receipt confirmation via electronic mail upon request. COC forms should be cross-checked with laboratory sample receipt confirmations, if applicable, to ensure that all samples were received and logged in correctly by the laboratory.

- 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; and
  - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW846 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.

4.11 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 PRR, as specified in **Section 7.0**.

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, COC 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, or the presence or absence of NAPL at monitoring locations) have changed since the last reporting event.

Monitoring results will be reported to NYSDEC in a PRR. The next PRR will be submited sixteen (16) months after Department approval of this SMP. Subsequent PRRs will be submitted every 3 years thereafter. PRRs will be prepared and certified in accordance with DER-10, and as outlined in **Section 7.2** 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 (Monitoring frequency as shown in **Table 2**).
Periodic Review Report	Next PRR is due sixteen (16) months after Department approval of this SMP. PRRs are due every three years thereafter.

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

4.11.1 Evaluations of Records and Reporting

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

- ICs/ECs are in place, are performing properly, and remain effective;
- The Monitoring and Sampling 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.

5.0 OPERATION AND MAINTENANCE PLAN

The Site remedy does not rely on any mechanical systems, such as a groundwater treatment system or air sparge/soil vapor extraction system to protect public health and the environment. Therefore, an operation and maintenance plan is not included in this SMP.

6.0 PERIODIC ASSESSMENT/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding 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 ECs 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**).

6.2 Site Management Inspection Recommendations

Periodic inspections and upkeep of the ECs (i.e., Security Fencing, Landfill Cap, Leachate Collection System, Passive Landfill Gas Vents, NAPL Monitoring System, Landfill Waste Containment System, Bentomat Cap Area, and the Soil Cap Area) are required to ensure effectiveness 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; and
- 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.

6.3 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 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, minimizing waste generation and fossil fuel use were identified as two key opportunities.

6.3.1 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 is presented below:

- PPE associated with groundwater sampling, such as disposable gloves, etc.;
- HDPE 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; and
- Purge water and decontamination water are containerized in the event that evidence of significant contamination is present (e.g., strong odors, sheen, product). Containerization will depend on the condition/quality of the water. If there are no odors, sheen, or product, purge water and/or decontamination water can be disposed of by discharging to the ground and allowing it to percolate.

6.3.2 Fossil Fuel Use

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; and
- Disposal of waste generated at the Site.

6.3.3 Metrics and Reporting

Information on energy use, solid waste generation, transportation and shipping, water use 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 implemented. A set of metrics has been developed and will be evaluated over time to ensure that green remediation actions are achieving the desired results.

6.4 Remedial System Optimization

A RSO study will be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. A RSO study may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; or
- A new and applicable remedial technology becomes available.

A RSO study will provide a critique of a Site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the Site's cleanup goals, gather additional performance or media specific data and information and provide

recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7.0 REPORTING REQUIREMENTS

7.1 Site Management Reports

All Site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in **Appendix D**. These forms are subject to NYSDEC revision. All Site management inspection, maintenance, and monitoring events will be conducted by a QEP as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of **Table 4** and summarized in the PRR.

7.2 Periodic Review Report

The next PRR will be submitted to the NYSDEC project manager sixteen (16) months after Department approval of this SMP. The PRR shall be submitted every third year to the NYSDEC project manager thereafter or at another frequency as may be required by the NYSDEC project manager. In the event that the Site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the Site. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the PRR. The report will include:

- Identification, assessment, and certification of all ICs/ECs required by the remedy for the Site;
- Results of the required quarterly and annual Site inspections and severe weather event inspections, as applicable;
- Description of any change of use, import of materials, or excavation that occurred during the certifying period;
- All applicable inspection forms and other records generated for the Site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted;
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation;
- Data summary tables and graphical representations of contaminants of concern by media (e.g., groundwater, surface water, sediment), 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 in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html; 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;
    - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan;
    - 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; and
    - The overall performance and effectiveness of the remedy.

The PRR 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

7.3 Certification of Institutional and Engineering Controls

After the last inspection of the reporting period, a PE licensed to practice and registered in New York State will prepare, and include in the PRR, the following certification as per the requirements of NYSDEC DER-10:

"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 Easement; 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 PRR will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager. The PRR may also need to be submitted in hard-copy format if requested by the NYSDEC project manager.

7.4 Corrective Measures Work 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 or failure to conduct Site management activities, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager 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 Work Plan until it has been approved by the NYSDEC project manager.

7.5 Remedial System Optimization Report

If a RSO study is to be performed (see **Section 6.4**), upon completion of a RSO study, a RSO Report must be submitted, in electronic format, to the NYSDEC project manager for approval. 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 (FER) and update to the SMP may also be required.

The RSO Report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager.

8.0 REFERENCES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

NYSDEC 2017. New York Codes, Rules and Regulations, Title 6, Part 360, Solid Waste Management Facilities General Requirements (6 NYCRR 360).

NYSDEC 2022. Site Management Plan – Rev 2, Cross County Sanitary - Kessman Landfill, NYSDEC, December 14, 2022.

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

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

TRC 2020c. Periodic Review Report - October 2019 – October 2020, TRC, October 2020.

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

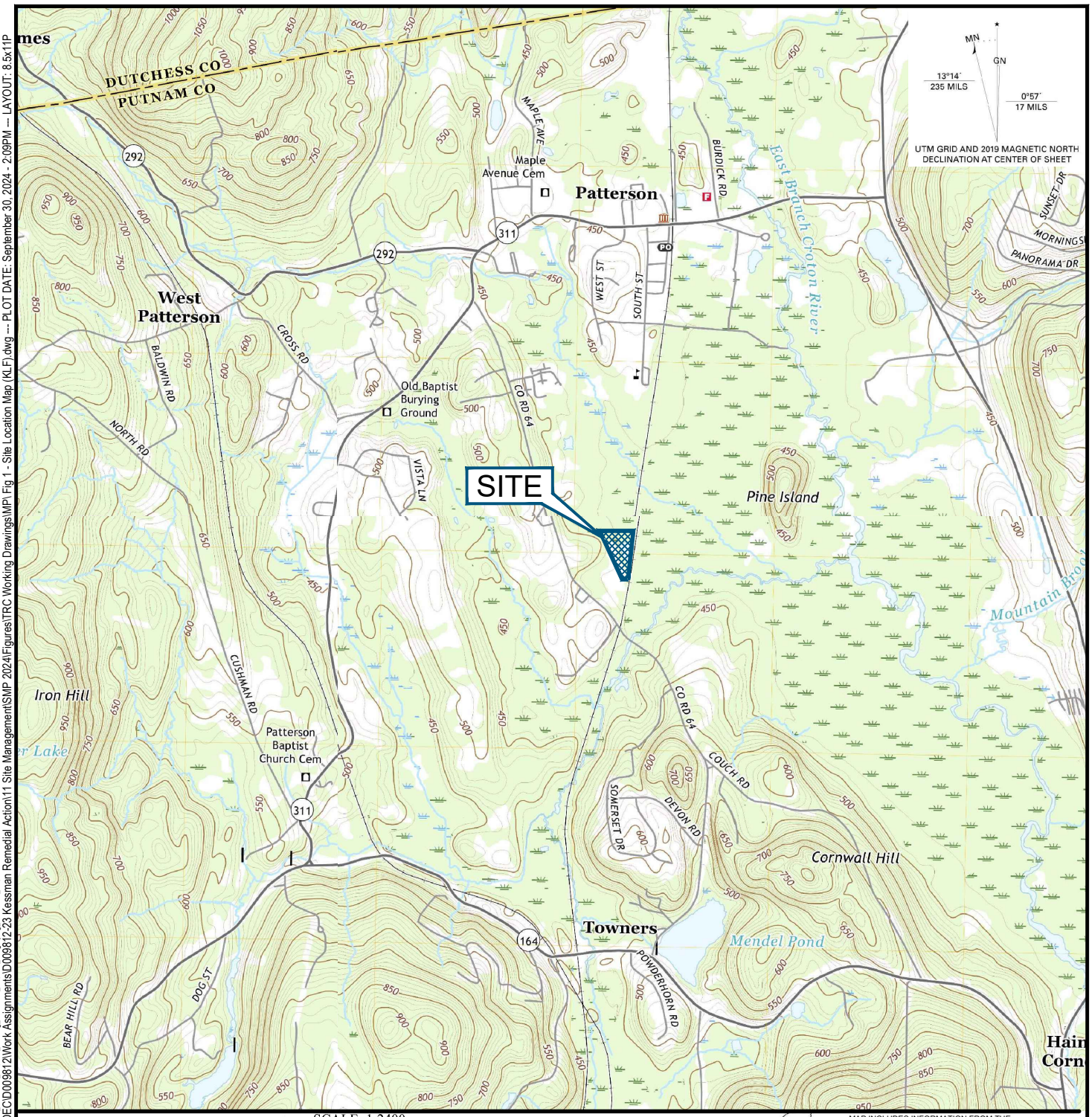
TRC 2022a. Climate Change Vulnerability Assessment and Green Resiliency Corrective Action Report, TRC, April 2022.

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

TRC 2024. Final Engineering Report, TRC Engineers, Inc., October 2024 (DRAFT).

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

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
CROSS-COUNTY SANITARY/KESSMAN LANDFILL - SITE NO. 340011
286 CORNWALL HILL ROAD
TOWN OF PATTERSON, PUTNAM COUNTY, NEW YORK

TITLE:

SITE LOCATION MAP

DRAWN BY:	R. HAMILTON
CHECKED BY:	N. FOLLETT
APPROVED BY:	K. SULLIVAN
DATE:	OCTOBER 2024
PROJ. NO.:	453379.000005.000001
FILE:	Fig 1 - Site Location Map (KLF).dwg

FIGURE 1

8.5x11 -- ATTACHED XREFS: -- ATTACHED IMAGES: NY_Brewster_20190930_TM; NY_Lake Carmel_20190930_TM; NY_Pawling_20190926_TM; NY_Poughquag_20190927_TM;
DRAWING NAME: \\CLIFTONPARK-VFP\cliftonpark\ECR\Projects\NYSDEC\D009812\Work Assignments\D009812-23 Kessman Remedial Action\11 Site Management\SMP 2024\Figures\TRC Working Drawings\MPI Fig 1 - Site Location Map (KLF).dwg -- PLOT DATE: September 30, 2024 - 2:09PM -- LAYOUT: 8.5x11P

SEDIMENT REMEDIATION AREA
MW-5B
MW-5A
PV-01
PV-02
PV-03
PV-04
PV-05
MW-1A
MW-1B
MW-3A
MW-3B
MW-R20B
MW-R20A
2.34 MG/KG
1.94 MG/KG
2.66 MG/KG
1.510 MG/KG
2.970 MG/KG
0.162 MG/KG
0.389 MG/KG
1.410 MG/KG
1.46 MG/KG
0.338 MG/KG
1.450 MG/KG
BENTOMAT CAP AREA
NAPL MONITORING SYSTEM OBSERVATION SUMPS
LANDFILL WASTE CONTAINMENT SYSTEM OBSERVATION SUMP
LEACHATE COLLECTION SYSTEM OUTLET SEALED
LEACHATE COLLECTION SYSTEM SUMP (MHC-1)
STONE TURN-AROUND AREA
CORNWALL HILL ROAD
MTA RAILROAD
GARAGE ROAD

0 120' 240'

SCALE: 1" = 120'

LEGEND (SYMBOLS NOT TO SCALE):

- ACCESS ROAD
- SECURITY FENCING
- PROPERTY BOUNDARY
- SEDIMENT REMEDIATION AREA
- H2 — SAMPLING GRID
- LANDFILL CAP
- SOIL CAP AREA
- LEACHATE COLLECTION SYSTEM PIPE (WITH APPROXIMATE LOCATION OF OUTLETS SHOWN. NOT FIELD VERIFIED.)
- OBSERVATION SUMP LOCATION
- MW-## — GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- SURFACE WATER MONITORING LOCATION
- LANDFILL GAS VENT MONITORING LOCATION
- SEDIMENT MONITORING LOCATION
- SIDEWALL SAMPLE LOCATION WITH PCB CONCENTRATION > 0.1 MG/KG DUE TO EXCAVATION LIMITATIONS (I.E., LANDFILL SIDESLOPE, RAILROAD EMBANKMENT/RIGHT-OF-WAY, OR DEWATERING DAM LOCATION)

N

NOTES:

1) BASEMAP IMAGERY SOURCE FROM NEARMAP DATED APRIL 22, 2024.
2) LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
3) CONCENTRATIONS SHOWN ARE TOTAL PCBS IN SOIL (MILLIGRAMS PER KILLOGRAM)

SHEET SIZE: 11" BY 17"

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

TITLE:
MONITORING LOCATIONS AND ENGINEERING CONTROLS

DRAWN BY:	R. HAMILTON	PROJ NO.:	453379.000005.000001
CHECKED BY:	N. FOLLETT		**FIGURE 2**
APPROVED BY:	K. SULLIVAN		
DATE:	OCTOBER 2024		

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

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

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

NYSDEC, SMP (Rev. 2), Cross County Sanitary/Kessman Landfill, December 2022.

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.

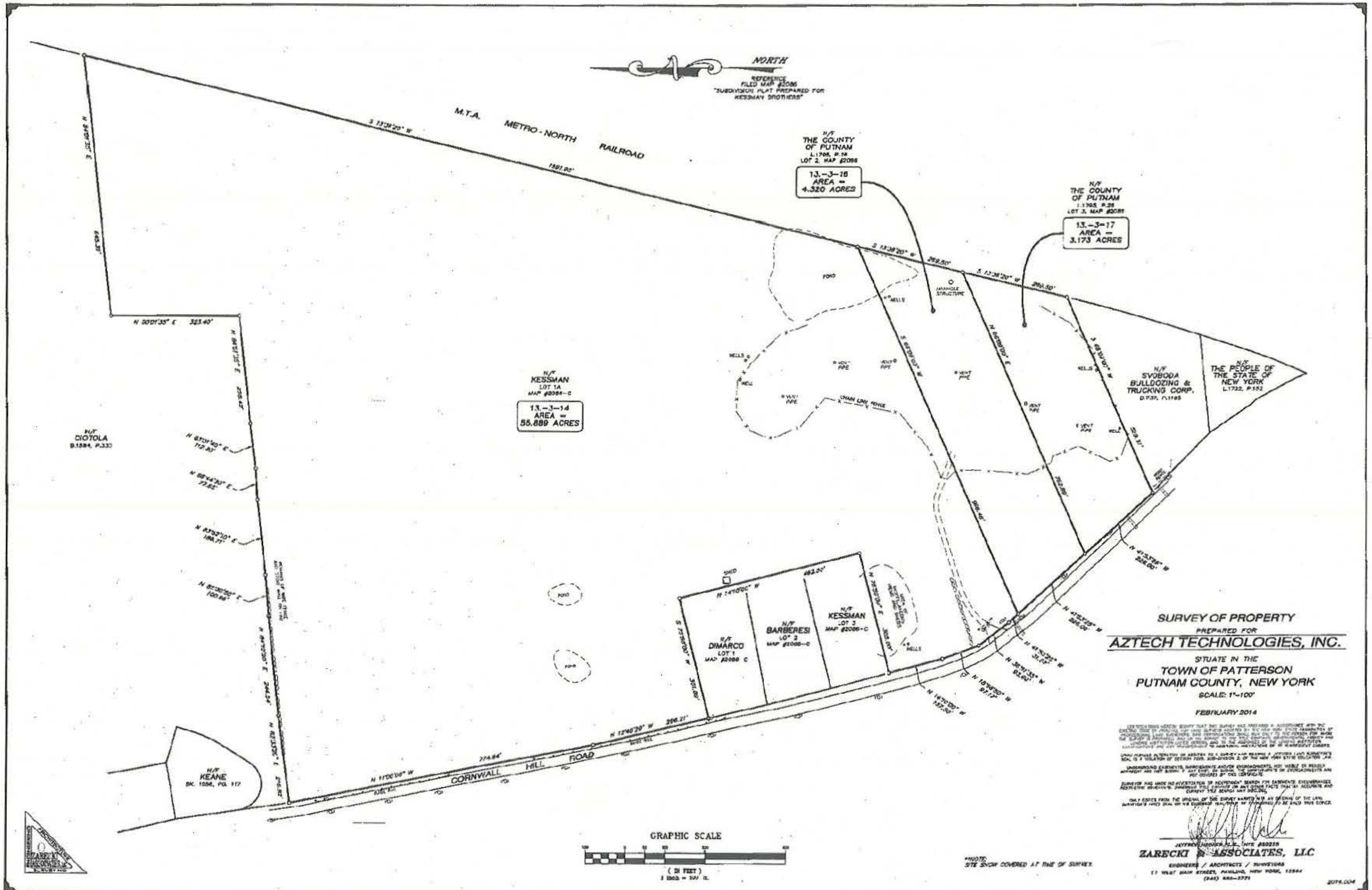
Tax Lot 13.-3-17
Lands now or formerly the County of Putnam

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
(IN FEET)
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

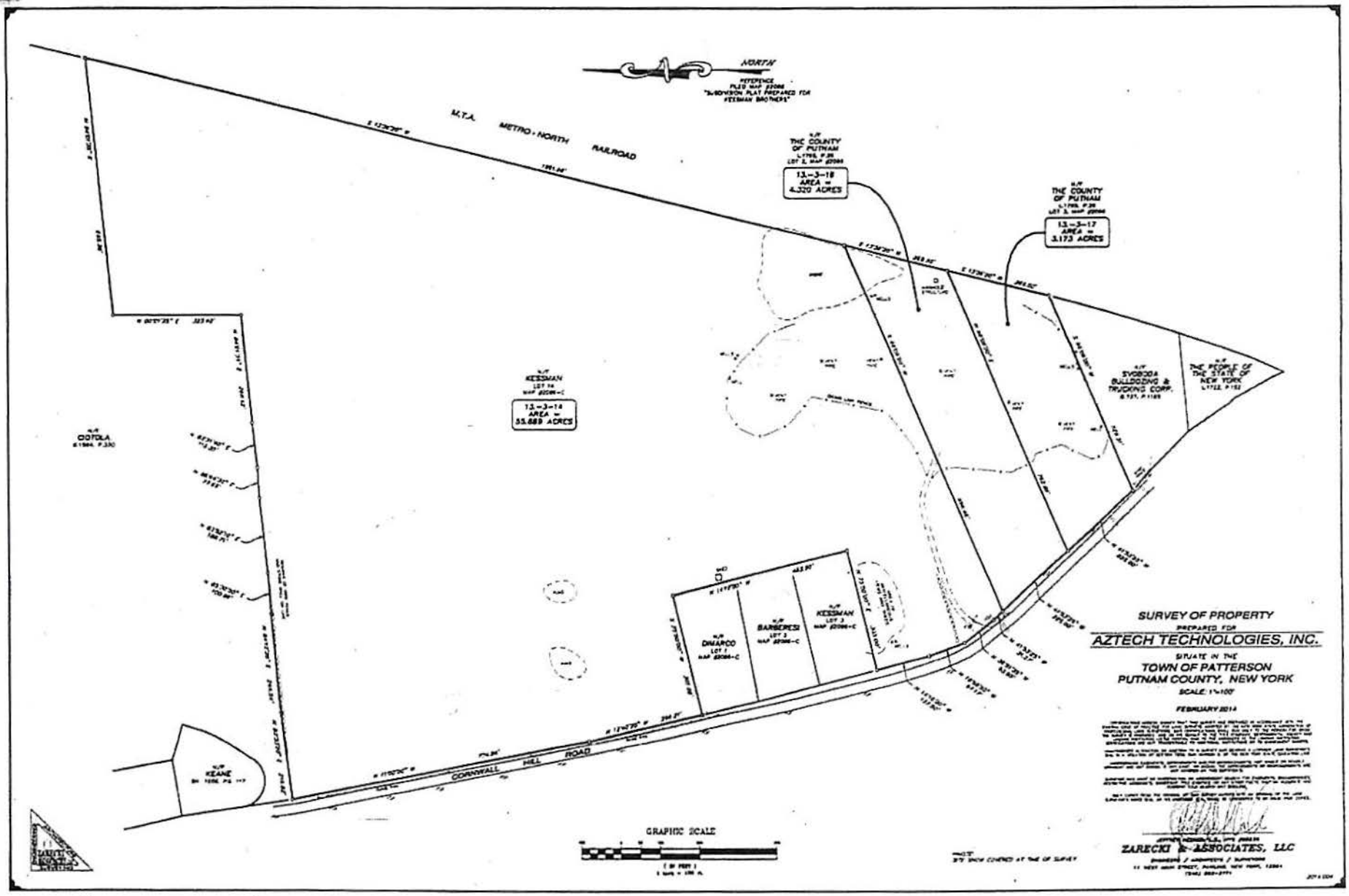
Tax lot 13.-3-14
Lands now or formerly Kessman

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
N/F
THE COUNTY
OF PUTNAM
L.1795, P.39
LOT 2, MAP #2086
13.-3-18
AREA =
4.320 ACRES
N/F
THE COUNTY
OF PUTNAM
L.1795, P.39
LOT 2, MAP #2086
13.-3-17
AREA =
3.173 ACRES
N/F
KESSMAN
LOT 1A
MAP #2086-C
13.-3-14
AREA =
55.889 ACRES
N/F
SVOBODA
BULLDOZING &
TRUCKING CORP.
L.721, P.1169
N/F
THE PEOPLE OF
THE STATE OF
NEW YORK
L.1722, P.152
N/F
COTOLA
L.1964, P.330
N/F
DINARCO
LOT 1
MAP #2086-C
N/F
BARBERESI
LOT 2
MAP #2086-C
N/F
KESSMAN
LOT 3
MAP #2086-C
N/F
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

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)[2]	Well Material	Measured Depth (ft btor)[2]	Screened Formation	*Screen* Top (ft btor)	*Screen* Bottom (ft btor)	*Screen* Length (ft)	DTW (ft btor)[2]	*Elevation (feet AMSL)* Top of Casing	*Elevation (feet AMSL)* Ground Surface	*Elevation (feet AMSL)* Groundwater Elevation	*Elevation (feet AMSL)* Screen Top	*Elevation (feet AMSL)* Screen Bottom	*Location* Northing (feet)	*Location* Easting (feet)
MW-1A	2	PVC [3]	59.97	Bedrock	54.28 [4]	59.28 [4]	5.00 [4]	13.18	462.57 [1]	460.20 [1]	449.39 [1,2]	408.90 [4]	403.90 [4]	971712.7 [1]	735779.7 [1]
MW-1B	2	PVC [3]	23.52	Overburden	18.05 [4]	23.05 [4]	5.00 [4]	14.52	462.28 [1]	460.00 [1]	447.76 [1,2]	445.00 [4]	440.00 [4]	971723.3 [1]	735778.6 [1]
MW-3A	2	PVC [3]	58.67	Bedrock	66.54 [4]	71.54 [4]	5.00 [4]	4.78	433.70 [1]	431.20 [1]	428.92 [1,2]	369.50 [4]	364.50 [4]	971325.3 [1]	736514.0 [1]
MW-3B	2	PVC [3]	34.17	Overburden	28.83 [4]	33.83 [4]	5.00 [4]	4.78	435.12 [1]	431.50 [1]	430.34 [1,2]	407.00 [4]	402.00 [4]	971321.5 [1]	736501.7 [1]
MW-5A	2	PVC [3]	70.96	Bedrock	67.68 [4]	72.68 [4]	5.00 [4]	2.71	433.40 [1]	430.60 [1]	430.69 [1,2]	365.90 [4]	360.90 [4]	972198.8 [1]	736440.2 [1]
MW-5B	2	PVC [3]	30.15	Overburden	27.06 [4]	32.06 [4]	5.00 [4]	3.05	432.88 [1]	430.30 [1]	429.83 [1,2]	407.20 [4]	402.20 [4]	972192.0 [1]	736453.1 [1]
MW-R20A	2	PVC [5]	28.83	Overburden	23.00 [5]	33.00 [5]	10.00 [5]	4.91	435.79 [5]	432.45 [5]	430.88 [2,5]	412.79 [5]	402.79 [5]	971854.5 [5]	736624.6 [5]
MW-R20B	2	PVC [5]	22.78	Overburden	12.00 [5]	22.00 [5]	10.00 [5]	5.76	435.81 [5]	432.67 [5]	430.05 [2,5]	423.81 [5]	413.81 [5]	971861.7 [5]	736621.0 [5]

Notes

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

1 : based on July 2020 Survey Data
2 : based on July 17-18, 2024 Groundwater Sampling Forms
3 : based on May 4, 2022 Well Inspection Form Data
4 : based on September 1994 RI
5 : based on 2024 ESG Reporting

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) 402-9645
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 Code of Federal Regulations (CFR) 1910.120;
- A copy of the Contractor's Health and Safety Plan (HASP), in electronic format, if it differs from the Generic HASP provided as **Appendix G** of this SMP;
- A copy of the Contractor's Community Air Monitoring Plan (CAMP, 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 USEPA Method 8260 or per the disposal facility's requirements, if applicable.

Visual, olfactory, and instrument-based soil screening will be performed by a QEP or person under their supervision 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 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 QEP 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 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 QEP or person under their supervision. 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 QEP 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 QEP 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 6 NYCRR 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 PRR. 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 C-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 QEP 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, groundwater monitoring well purge and development waters, and NAPL, if applicable, will be handled, transported, and disposed in accordance with applicable local, State, and federal regulations. Dewatering, purge, and development fluids will be recharged back to the land 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.

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 NYSDOH generic Community Air Monitoring Plan in DER-10 Appendix 1A. Continuous monitoring for 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 CAMP 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 PRR.

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

- limiting the area of open excavations and size of soil stockpiles;
- shrouding open excavations with tarps and other covers; and
- using foams to cover exposed odorous soils.

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

- direct load-out of soils to trucks for off-Site disposal;
- use of chemical odorants in spray or misting systems; and
- 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 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 (RP) 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; and
- On-Site roads will be limited in total area to minimize the area required for water truck wetting/watering.

APPENDIX D

Template Inspection and Monitoring Forms

CROSS-COUNTY SANITARY/KESSMAN LANDFILL
SITE-WIDE INSPECTION CHECKLIST

Day: _____ **Date:** _____

NYSDEC		Temperature: (°F)		(am)		(pm)
Site Owner: _____ **Current Site Use:**		Wind Direction/Speed:		(am)		(pm)
Cross-County Sanitary/Kessman Landfill Site **NYSDEC Site # 340011**		Weather:	(am) (pm)			
286 Cornwall Hill Road **Patterson, New York**		Arrive at site:		(am)		
		Leave site:		(pm)		
		Inspector:				

Site Security

Evidence of vandalism (perimeter security fencing, gate, wells, passive landfill gas vents, observation sumps):

Condition of Security Fencing:

Additional Comments:

Day: _____ **Date:** _____

Landfill Cap
Evidence of vegetation mortality:
Evidence of erosion/dust:
Evidence of disturbance/digging:
Additional Comments:

Day: _____ **Date:** _____

Site Drainage

Evidence of ponding on the landfill cap:

Evidence of Site runoff/erosion:

Additional comments:

Site Access Road

Evidence of damage to Site access road:

Evidence of damage to gravel roadways leading to monitoring well pair MW-R20A/B and the north landfill cap area:

Additional comments:

Day: _____ **Date:** _____

Monitoring Well Network								
Well ID: **Checklist:**	**MW-1A**	**MW-1B**	**MW-3A**	**MW-3B**	**MW-5A**	**MW-5B**	**MW-R20A**	**MW-R20B**
Are there any new cracks in the concrete collar?								
Protective casing locked/secure?								
MW locking cap in place?								
Additional comments:								

Day: _____ **Date:** _____

Wetland Area
General overall vegetation condition?
Evidence of stressed vegetation?
Evidence of invasive species/areas of growth?
Evidence of disturbance/digging?
Additional Comments:

Day: _____ **Date:** _____

Leachate Collection System
Depth to water from manhole cover:
Presence of NAPL? Volume of NAPL removed?
Was oil absorbent sock removed/installed?
Additional comments:

Day: _____ **Date:** _____

Passive Landfill Gas Vents					
Vent ID: **Criteria:**	**PV-1**	**PV-2**	**PV-3**	**PV-4**	**PV-5**
% CH_4					
% CO_2					
% O_2					
CO (ppm) (ppb)					
H_2S (ppm) (ppb)					
% LEL CH_4					
Flow (SCFM)					
Calorific Value (KW or BTU)					
Additional Comments:					

Day: _____ **Date:** _____

Additional Engineering Controls		
Control: **Inspection:**	**Soil Cap Area**	**Bentomat Cap Area**
Is the area accessible or under ponded/standing water?		
Evidence of disturbance/digging?		
Condition of Vegetation		
Invasive species present?		
Additional comments:		

Additional Engineering Controls			
Control: **Inspection:**	**Landfill Waste Containment System Sump**	**NAPL Monitoring System Inspection Sump (1)**	**NAPL Monitoring System Inspection Sump (2)**
Evidence of damage to the observation sump?			
Depth to Water? (ft)			
Presence of NAPL?			
Volume of NAPL removed?			
Was oil absorbent sock removed/installed?			
Additional comments:			
Inspector Signature:		**Date:**	

DAILY INSPECTION REPORT

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

NYSDEC
Division of Environmental Remediation

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYSDEC Contract No.

Superintendent:

NYSDEC PM:

Consultant PM:

Consultant Site Inspectors:

Site Location:

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:**

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	Yes ☐	No ☐	N/A☐

Green Remediation Metrics, by the CONTRACTOR?			
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
- ☐ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER _____
- ☐ WATTERA
- ☐ OTHER _____
- ☐ OTHER _____

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☐ OTHER _____

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☐ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER _____
- ☐ OTHER _____
- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER _____
- ☐ OTHER _____
- ☐ OTHER _____

EQUIPMENT USED
- ☐ WL METER _____
- ☐ PID _____
- ☐ WQ METER _____
- ☐ TURB. METER _____
- ☐ PUMP _____
- ☐ 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 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

Site work and inspections should consider and incorporate the use of the following materials to the extent practicable:

- Use environmentally friendly electronics (e.g., ENERGY STAR).
- 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
- 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 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.

Procedural/Process Recommendations

Site work and inspections should consider and incorporate the following general Site procedures and best management practices to the extent practicable:

- Provide all required documentation in electronic format, eliminating the need for printing, inks, paper, and mail/delivery impacts.
- Recycle generated waste as deemed appropriate.
- Beneficially reuse materials where applicable and appropriate on site.
- Recycle PPE when possible.
- Sequence work to minimize double-handling (e.g., direct loading of waste, direct placement of backfill, etc.) of materials.
- Provide materials that generate the least amount of pollution during mining, manufacturing, transport, installation, use and disposal.
- 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.
- When applicable, group site visits with other sites within the area, to reduce over miles traveled.
- Utilize local staff site activities.
- 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 and miles traveled.

Equipment Recommendations

The following requirements for on-Site equipment should be implemented during Site work and inspections 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.

- 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.
- 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.
- 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.
- Use electric equipment for groundwater monitoring sampling events, during low-flow groundwater monitoring sampling events.

Restoration and Revegetation Recommendations

A Guarantee Period of two (2) years exists for the wetland restoration and plantings installed during RSO Remedial Construction, which begins after the Site has been through

one full growing period. Additionally, at least 95% of the surface area of the vegetative surface shall be established with seeded species within 2 growing seasons following landfill cap restoration activities. Wetland plantings include a diverse mixture of trees and grass that will require watering, inspection and maintenance until they are established, to provide the required habitats and ecosystem in the wetland area.

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

- Continue to monitor for growth of the wetland plant restoration areas and seed mix; and re-seed all areas of the wetland with inadequate growth.
- Re-seed any bare spots on the vegetation surface and replant those areas which show poor stand of grass in the wetland area.
- Replant missing trees and shrubs.
- Include plant species that promote colonization of bees and other pollinators.
- 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 and Monitoring Recommendations

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

The following requirements for Site inspection should be implemented to ensure the work follows best management practices (BMPs):

- Use of energy efficient or electric vehicles for personnel transport to the Site.
- Use of local vendors to provide equipment and materials needed for Site inspection and maintenance.
- Use of 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.

Summary of Green Remediation Metrics for Site Management

Site Name: _____ Site Code: _____
Address: _____ City: _____
State: _____ Zip Code: _____ County: _____

Initial Report Period (Start Date of period covered by the Initial Report submittal)
Start Date: _____

Current Reporting Period
Reporting Period From: _____ To: _____

Contact Information
Preparer's Name: _____ Phone No.: _____
Preparer's Affiliation: _____

I. Energy Usage: Quantify the amount of energy used directly on-Site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g., natural gas (cf))		
Fuel Type 2 (e.g., fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g., solar, wind)		
Other energy sources (e.g., geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the Site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-Site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-Site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-Site to landfills		
Transported off-Site to other disposal facilities		
Transported off-Site for recycling/reuse		
Reused on-Site		

Provide a description of any implemented waste reduction programs for the Site in the space provided on Page 3.

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies and lab-supplied bottles, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service (bottle and sample delivery)		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the Site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the Site.

IV. Water Usage: Quantify the volume of water used on-Site from various sources.

	Current Reporting Period (gallons)	**Total to Date (gallons)**
Total quantity of water used on-Site (not including treated water)		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-Site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the Site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e., Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the Site in the space provided on Page 3.

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Recommendations/Other:

CONTRACTOR CERTIFICATION
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of _____ (**Contractor Name**), which is responsible for the work documented on this form. According to my knowledge and belief, all of the information provided in this form is accurate and the Site management program complies with the DER-10, DER-31, and CP-49 policies. _____ **Date** **Contractor**

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)