From:	Montroy, Brian
To:	Spellman, John (DEC)
Cc:	Christopher Wagner
Subject:	2021 Operation and Maintenance Report, Clarkstown Sanitary Landfill
Date:	Monday, March 7, 2022 10:49:31 PM
Attachments:	Transmittal.pdf Operation and Maintenance Report 2021 DRAFT final.pdf

John,

Please find attached the 2021 Operation and Maintenance report for the Clarkstown Landfill. If you have any questions or comments please let me know. Thank you and have a great weekend.

Brian

Brian Montroy, PG (NY), CPG
Project Manager/Sr. Geologist

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Transmittal

Date:	Monday, March 07, 2022
Project:	Clarkstown Landfill
To:	John Spellman
From:	Brian Montroy
Subject:	2021 Annual Landfill Gas Report

We are sending you:

☐ Attached ☐ Under separate cover via the following items:

☐ Shop drawings ☐ Prints ☐ Plans

☐ Samples ☐ Specifications ☐ Copy of letter

☐ Change Order ☒ Other: PDF via email

Copies	Date	No.	Description
1	3/7/2022	1	2021 Operation and Maintenance Report, Clarkstown Sanitary Landfill
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Remarks: If DEC has any questions or comments please contact Brian Montroy at 845.642.8681 or Brian.Montroy@hdrinc.com

Copy to: Christopher Wagner, Town of Clarkstown Deputy Director - Operations

Signed: Brian Montroy PG, CPG

Operation and Maintenance Report

Clarkstown Sanitary Landfill

Period - January-December 2021

West Nyack NY

February 28, 2022

PREPARED FOR:

TOWN OF CLARKSTOWN
DEPARTMENT OF ENGINEERING &
FACILITIES MANAGEMENT
10 MAPLE AVE.
NEW CITY, NY 10956

Report Verification

PROJECT: **Clarkstown Sanitary Landfill; Landfill Gas Management**
Town of Clarkstown, Department of Engineering & Facilities Management
West Nyack, New York
NYSDEC Inactive Hazardous Waste Site No. 344001

TITLE: **Operation and Maintenance Report**
Clarkstown Sanitary Landfill; January-December 2021

This document has been reviewed for accuracy and quality commensurate with the intended application.

Prepared by: Matthew T. Papula Date: 1/10/2022

Checked by: Brian Montroy Date: 2/07/2022

Project Manager: Brian Montroy

Revised: 2/28/2022

Contents

Tables

Graphs

Figures (At Back of Report Following Conclusions)

Appendices (At Back of Report Following Figures)

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1 Introduction

The purpose of this annual report is to provide an operation and maintenance (O&M) summary for the period of January through December 2021 for the Clarkstown Sanitary Landfill (the Landfill), located in West Nyack, Rockland County, New York (Figure 1).

The Landfill, which is located approximately 1,000 feet south of Route 59, is bounded on the east side by New York State Route 303, and on the north, south and west sides by buffer wetlands. The Landfill property encompasses approximately 100 acres.

The Landfill had been in operation since the 1940s and ceased operations on December 31, 1990. The Landfill was closed under an Order on Consent issued by New York State Department of Environmental Conservation (NYSDEC). The Landfill is a listed inactive Hazardous Waste Class 2 site (Site No. 344001). The Operation and Maintenance Manual indicates that the United State Environmental Protection Agency (USEPA) has listed the site on the National Priority List (NPL); however, this Site does not appear to be listed on the USEPA NPL registry.

In 1996, the Town of Clarkstown (the Town) began capping the Landfill and constructing a gas collection system, which was designed to evacuate and combust methane gas from the capped Landfill. Construction of the Landfill cap and gas collection system was completed in February 1999.

The Town retained the services of Henningson, Durham & Richardson Architecture and Engineering, P.C., in association with HDR Engineering, Inc. (HDR) to assist in the O&M activities at the Landfill. HDR performed routine inspections and maintenance of the Landfill to comply with the Clarkstown Sanitary Landfill Operation & Maintenance Manual, dated October 1999.

2 Landfill Gas System Monitoring, Balancing, and Maintenance

The Landfill gas (LFG) system (Figure 2) was designed to collect, transport, and incinerate gas generated at the capped Landfill. The system is constructed of a main header pipe, horizontal surface collection areas, and 10 extraction legs with 52 extraction wells. The entire system is comprised of approximately 18,000 linear feet of high-density polyethylene (HDPE) pipe of varying diameters. This section provides a description of the monitoring and maintenance of the LFG system, which includes the following:

- LFG System Collection Piping
- LFG System Surface Collector Network
- LFG Drip Leg Assemblies
- LFG System Wellheads, Vaults and Valves

Maintenance logs for the LFG system (FS-3) are included as Appendix A of this report.

2.1 LFG System Collection Piping

The header pipe (Figure 3) is constructed of a HDPE pipe that encircles the eastern and central portion of the Landfill in a circular or 'ring' shape. Four isolation (header) valves and two in-line pipe reducers are located along the length of the header pipe. The eastern and northern sections of the ring are constructed with ten-inch diameter HDPE and are reduced to an eight-inch diameter main along the southern and western sections. The gas collection piping is located above the geo-membrane and below the final cover. It is typically buried 18 to 24 inches below the existing grade of the Landfill.

The operation and maintenance of gas collection piping consists of inspection of leg vaults and valves, header vaults and valves, drip legs and well head vaults for subsidence and damage. Well head static pressures are collected using a LandTec GEM 2000 Landfill gas meter and are used to identify condensate accumulation and/or blockage.

2.2 LFG System Surface Collector Networks

The two LFG surface collectors (Figure 4) are composed of a series of perforated six-inch diameter HDPE pipes that are located at the northeast and southeast corners of the Landfill. The perforated six-inch diameter HDPE pipes have been installed in gravel-filled trenches spaced 100 feet apart. The northeast surface collection gallery is regulated by Leg Valve K. As of December 2021, the valve at Leg K is currently 5% open. The southeast collector is regulated by Leg Valve A which is currently 25% open.

The design of the southeast surface collector is unclear in part because one set of as-built drawings show the system in place and another set does not. The presence of passive vents located in the same area as the surface collector would suggest the surface collector is not in place. However, the presence of Leg Valve A suggests otherwise. If the surface

collector is in place, the prevailing thought is that the surface collector would draw ambient air via the passive collectors.

Total methane concentrations on 26 March 2021 at Leg A was 73.0% and on 02 August 2021 at Leg A was 71.3%. The presence of the valve and the elevated methane composition suggests the surface collector is present. Therefore, HDR is managing the gas in this area under the assumption that the surface collector is in place.

2.3 LFG Drip Leg Assemblies

There are 12 drip leg assemblies (Figure 5) located at the Landfill. Some areas along the gas collection piping experience restrictions in air flow caused by the accumulation of condensate in low lying areas of the gas collecting piping. These locations are near Drip Leg (DL) 1 and DL-5 and to a lesser extent DL-10. Starting during the 28 June 2021 O&M event a 2" PVC drip leg located adjacent to GE-09 was also checked. These areas are inspected/monitored, and condensate is removed during monthly site visits. It should be noted that it is common for condensate to accumulate and landfill gas lines and these issues are not unique to this landfill.

DL-1 is located in the vicinity of Leg Valve C, which services two gas extraction wells (GE-9 and GE-10). The drip leg is located immediately off the ten-inch diameter header main, which serves as a major artery for the collection piping. DL-5 is located along Leg B, between GE-2 and GE-3. Six gas extraction wells are located up-gradient of the drip leg (GE-3 through GE-8). All six of these wells are located along the northern crest of the Landfill, which is a major collection area of LFG. DL-10 is along Leg I, between GE-37 and GE-38, which services the north-west portion corner of the Landfill.

At each restricted location, the collection leg was tapped and fitted with a pipe-sleeve and tee. A PVC riser pipe and valve were connected to this sleeve/tee. The modification to the Landfill collection pipe is used exclusively to remove condensate. During each monthly site visit, each location was inspected for the presence of condensate (positive vs. negative pressure). If positive pressure or minimal negative pressure is noted, condensate is removed by utilizing a submersible or peristaltic pump which has proven to be highly effective in removing the condensate plugs in the collection pipe.

Table 2-1 illustrates the locations, dates and approximate volumes of condensate purged from the riser pipes during this reporting period. Based on the data presented below the greatest accumulation of condensate is present at DL-5.

Table 2-1: Volume of Condensate Removed from Drip Legs

Date	DL-1	DL-5	GE-09	DL-10
	Volume purged (gallons)	Volume purged (gallons)	Volume purged (gallons)	Volume purged (gallons)
January 28, 2021	2.3	29.6	NA	0
February 23, 2021	NA	NA	NA	NA
March 26, 2021	17	168	NA	0
April 23, 2021	6	46.4	NA	0
May 27, 2021	50	11	NA	28
June 28, 2020	0	7.4	205.3	0
August 6, 2021	0	8.1	3.4	10.12
August 28, 2021	0	5.4	0	0
September 30, 2021	0	5.51	7.93	3.96
October 29, 2021	0	6.53	6.64	0
November 29, 2021	4.7	5.5	12.7	6.3
December 22, 2021	0	0	0	0
Total Removed	**80**	**293**	**236**	**48**

Note:

NA – pumping not attempted

2.4 System Wellheads, Vaults and Valves

The 52 LFG extraction wells (Figure 6) were inspected during monthly site visits. Gas extraction well monitoring, and inspections of each well were conducted to identify potential leakage, liquid pooling, and hazardous methane conditions in the surrounding area. Deficiencies noted during the monthly inspections were reported on Form DP-1, which are included as Appendix B.

Settlement of the well head vaults is an ongoing issue at the Landfill. The Town, in conjunction with HDR has evaluated the well head construction and design and has retrofitted LFG extraction wells and vaults at 35 locations with new QED® Accu-Flo well heads, located above grade. This new design eliminates the slip/trip/fall hazard which was associated with settlement of the old vault system. Additionally, the new well heads are clearly visible and easily accessible. The new well head design also allows differential pressures to be measured. These measurements allow HDR to calculate the flow rate at the wells that have been retrofitted.

Seventeen LFG extraction wells and associated valves have not yet been retrofitted. These vaults are constructed of heavy-duty fiberglass. Over the years, some of the vaults exhibit minimal to moderate amounts of damage around the lip of the vault and/or the vault covers. This damage is cosmetic and does not affect the performance or operation of the LFG collection piping or wells.

Leg valves were monitored on a bi-annual basis (twice/year) for valve settings, gas composition and indications of differential settlement or fatigue. Originally, a ¼-inch valve

and sample tube were tapped into the collection piping immediately up-gradient of each leg valve. This set-up is used to confirm suction pressure in each leg. To better evaluate the performance and to optimize gas collection at the Landfill, HDR removed the tubing and placed a compression cap over each valve. During site inspections, the cap is removed, and a barbed fitting is connected to the valve. Information collected is used to evaluate LFG production and balancing of the well field. This is especially important as the LFG production continues to decrease over time.

2.5 LFG Monitoring for System Control

All the LFG extraction wells are measured for gas composition and pressures. Each well is fitted with a valve that may be adjusted based upon corresponding gas and pressure readings. This process is referred to as “well balancing” and is performed monthly. The goal for well balancing is to optimize system operations by determining the equilibrium for each well where the methane extraction is equal to the methane production. The monthly well balancing field summary report is provided as Appendix C.

Figure 7 is a map illustrating the LFG collection system with notations for each gas extraction well that has been entirely or partially closed. The well valves that have been entirely or partially closed are primarily located around the perimeter of the Landfill, or in lower lying areas. The number of these wells has increased over time, suggesting methane production is diminishing. Gas collection, gas concentration, and volumes are discussed in Section 4.

3 Landfill Gas Handling System

This section provides a description of the monitoring and maintenance of the LFG flare control system. The system consists of three components: an LFG control system, an LFG blower assembly, and an enclosed LFG ground flare.

3.1 LFG Control System

The gas extraction rate exceeds the gas production rate at the Landfill. Currently, the flare is programmed to operate for 10 hours per day with the scheduled down time during the overnight hours. By cycling operating times, HDR is attempting to balance LFG production with extraction occurring during times when the adjacent transfer and co-joining recycling facility are active to minimize human exposure.

On occasion, the flare has failed to automatically restart in the morning. Two or three attempts were typically needed to restart the flare successfully. The failed restarts are a result of either an insufficient volume of methane available to sustain a flame or a pilot flame fail (either pilot flame blow out or an empty pilot flame fuel tank).

Even though the system is now automated, it will not attempt to restart a second time as the failed restart triggers an alarm condition (flame fail). This alarm condition requires the flare station to be reset manually. Due to these operational controls, regular (2-4 times per week) site visits by HDR are necessary to ensure that the flare operates on a regular basis.

The control system also provides safety shutdowns for emergency conditions. The safety shutdowns include:

- High Lower Explosive Limit (one for each of four combustible detectors inside the building & gas analyzer cabinet)
- Blower Overload (one for each blower)
- High Oxygen Content in LFG
- Low Methane Content in LFG
- Flame Failure
- Pilot Failure
- High Flame Temperature
- Low Flame Temperature
- Low LFG Flow
- Shutdown Valve Fail Closed
- Shutdown Valve Fail Open
- High Liquid Level in Condensate Tank

The LFG control system receives signals from the sensors and detectors to monitor the operation of the enclosed ground flare. Malfunction of sensing/detecting devices will trigger alarms and shut down the system. The alarm shutdowns are logged by the system.

As noted in previous reports, the Gas Analysis Cabinet (GAC) methane detector has not been operating properly. Two deficiencies have been identified with this unit:

- The temperature transmitter has been malfunctioning.
- The oxygen sensor has been malfunctioning.

HDR has been monitoring the gas makeup from a flare sampling port. The data show that the gas is under control and the flare itself is operating properly and within manufacturer's guidelines. This monitoring precludes the need to repair the GAC detector currently.

On 16 November 2020 an electrical issue at the solar array caused a power outage at the flare station. The town electrician diagnosed the issue and power was restored to the flare station on 25 November 2020. Upon system restart, a CGT - High LEL alarm for sensors 301, 302, 303, and 304 was noted on the system control panel. To trouble shoot the error, HDR assessed the atmosphere conditions with-in the butler building by scanning the area with a landfill gas meter. No methane readings were detected inside or around the building. HDR then recalibrated the LEL sensors. After several attempts only 3 out of the 4 sensors would calibrate. After some trouble shooting with tech support from the systems manufacturer and the sensor manufacturer, it was determined that the sensor that would not calibrate would need to be replaced. On 24 Dec 2020 the LEL sensor was replaced, and they system was calibrated. After several additional attempts to calibrate the sensor, it failed to calibrate yielding the same alarm condition referenced above. After several more test and a couple phone calls to the sensor manufacturer technical support line, it was determined that the probable cause of this alarm condition was most likely a faulty sensor controller unit. After consultation with the Town, the part was ordered, and the system remained down for the remainder of 2020.

On 22 January 2021 the replacement controller unit arrive and was installed. With new part in place the Flare station was still reporting a High LEL alarm and shutting back down. multiple attempts were made in re calibrating the sensors with no change. The manufacturer again was consulted for additional trouble shooting steps. After discussion with the manufacturer and many trouble shooting hours it was determined that there was a wiring short between the PLC and the sensor was the issue. To circumvent this issue the logic code for the PLC would need to be re-written. On 05 March 2021 the new logic code was uploaded into the PLC and replaced the original source code. The system was restarted and was operating as designed.

On 07 July 2021 the system was experiencing "low flow" alarm and shut down errors. After trouble shooting the system it was determined that the flow sensor was partially obstructed and not reading the actual flow. The flow sensor was dismantled, cleaned and rebuilt on 05 August 2021. Once reassembled the system was restarted and was operating as designed. Due to a cooler and wetter than normal fall and early winter season (September to December) the flare experienced "flame fail" alarms frequently and the gas collection and flare system was not operational for about 50% of this time frame.

3.2 Blower Assembly

The blower assembly is in a “Butler” building, which is open on the north side to facilitate adequate ventilation. The blower assembly consists of two explosion-proof, spark-proof centrifugal vacuum blowers (Blower 301 and 302). Each blower has a separate pre-filtration system (demister filters) and inlet and outlet isolation valves. The blower assembly is mounted on a steel skid, which is centrally located within the building. The blower’s starter is located outside of the blower assembly at the flare station control panel. The system is currently operated using one blower (Blower 301).

Four lower explosive limit (LEL) sensors are located at the corners of the skid and are checked and calibrated annually using an MSA Ultima® calibrator. One of the sensors and controller unit had malfunctioned after a power outage causing the system to be down from 16 Nov 2020 for the remainder of 2020 and was restarted in March of 2021. See discussion in section 3.1 above.

The inlet isolation valve is used to control flow. The valve on the operating blower is positioned to provide an average flow of 550-650 cubic feet per minute (CFM). However, as previously noted the demister filters are failing and actual flow is between 350 and 450 cfm. The outlet valve for the operating blower is fully open. The valves (inlet and outlet) for the offline Blower 302 were both closed while Blower 301 is operating.

3.3 Enclosed LFG Ground Flare

The enclosed LFG ground flare consists of a combustor assembly, an insulated stack, a pilot gas assembly, three thermocouples, a flame arrestor, a shut-down valve, and three electrically actuated intake louvers. The system is currently operating using Thermocouple Two as a temperature monitor set to 1440 degrees Fahrenheit. Two of the three louvers are offline and closed. This provides better temperature control of the system by reducing overcompensation by the louver/actuator controls.

4 Landfill Gas System Overall Gas Evaluation

Typically, LFG is composed of methane, carbon dioxide, nitrogen, and, to a much lesser extent, oxygen. Typical LFG concentrations for methane (35%-60%), carbon dioxide (35%-60%), nitrogen (3%-12%), and oxygen (0%-5%) are expected at most landfills. Methane and carbon dioxide are produced through the bacteriological breakdown of organic matter under anaerobic conditions. If concentrations of nitrogen and oxygen gases increase above expected values, it is often an indication that intrusion of ambient air into the gas extraction system is occurring. This typically occurs when the gas extraction system is operating at extraction rates that are greater than the methane production rates. During monthly well balancing, gas extraction well valves are set to optimize methane concentrations and minimize oxygen and nitrogen concentrations in the mixture going to the flare.

LFG data is collected from each gas extraction well using a Landtec GEM™ 2000 meter (GEM 2000). The GEM 2000 measures the percentage of methane, carbon dioxide, and oxygen present in the LFG. The remaining gas is reported as “balance” gas and typically consists of nitrogen with low percentages (typically <1%) of trace gases. The meter is also used to measure suction pressure and differential pressure on above grade well heads at applicable gas extraction wells and leg valves. LFG is also monitored at the flare station and perimeter monitoring wells using the GEM 2000.

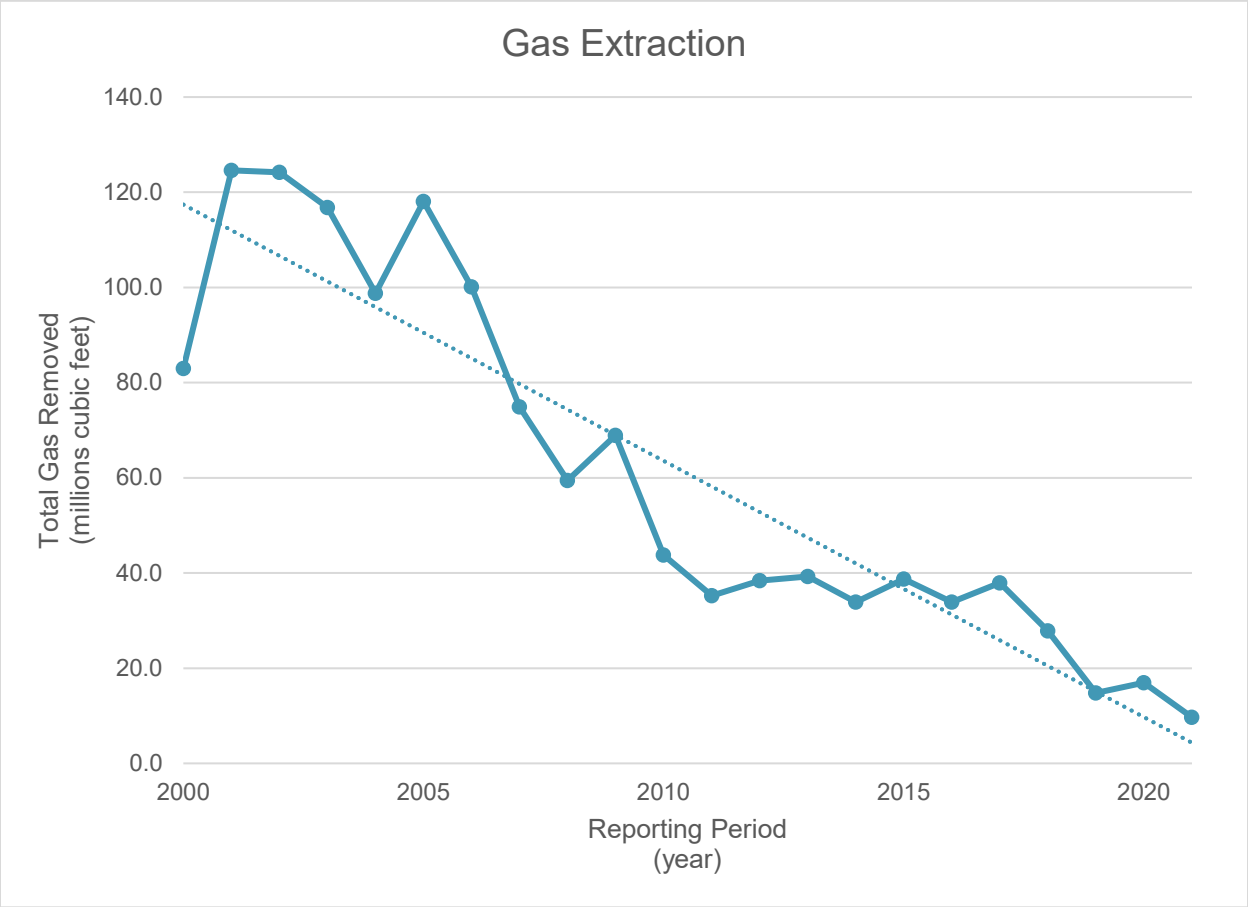
4.1 Quantitative Analysis of Gas Recovery

For the 2021 period, log sheets were maintained to record the gas flow rate, cumulative and daily gas extraction volumes, flare temperatures, blower amperage, and cumulative blower run-time. The data sheets are included in this report as Appendix D.

The total LFG recovered in 2021 was approximately 9.69 million cubic feet. This is almost a 50% decrease in gas production compared to the previous year’s volume (16.96 million cubic feet). This is likely a function of decreased run time compared to the previous year. The system operated for 730 hours in 2021, which to 20% runtime based on a 10 hour per day operation cycle. This is a decrease over the previous reporting year’s runtime of 31%.

Graph 4-1 illustrates the volume of landfill gas removed on an annual basis. The graph illustrates a decreasing trend in the volume of gas removed from the Landfill over the past 19 years. This is the typical and expected result of continued landfill gas removal. 4-1: Volume of Condensate Removed from Drip Legs

Graph 4-1: Gas Volume Extraction Trends



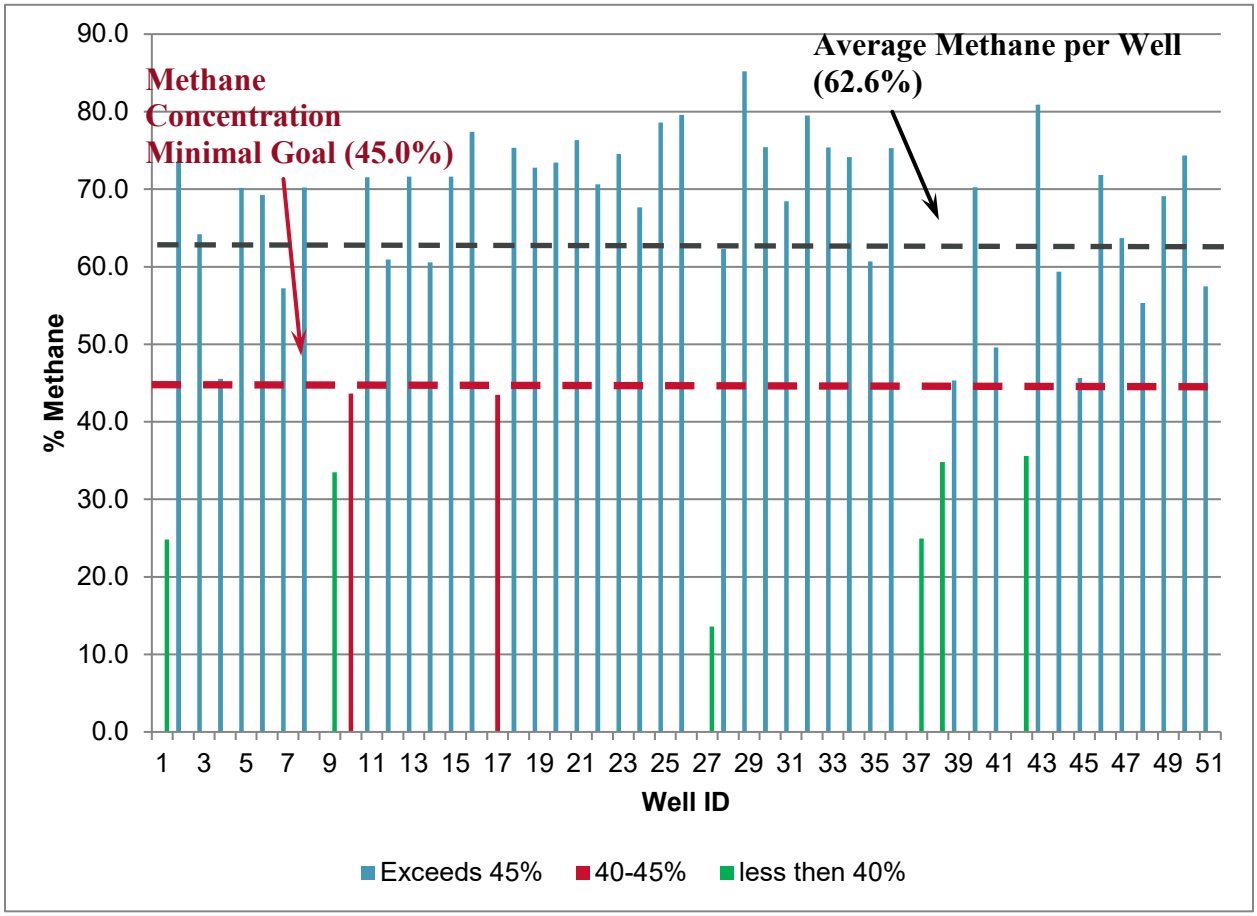
4.2 Qualitative Analysis of Gas Recovery

LFG quality is monitored at each of the 52 gas extraction wells and at the flare station. Optimal gas quality consists of a high methane concentration (greater than 45%) and low carbon dioxide, oxygen, and nitrogen levels. Methane is required to sustain the flaring of the gas. The primary reason to burn LFG is public safety. Additionally, methane is a greenhouse gas with a global warming potential more than 20 times that of carbon dioxide.

The efficient combustion of LFG can be inhibited by carbon dioxide. Therefore, low levels of carbon dioxide are desired. Low oxygen at the well heads is also desirable because it is an indication that ambient air intrusion is not occurring, and high concentrations of oxygen would increase the potential for LFG to exhibit flammable conditions outside of the flare station. Typically, LFG that is extracted from the Landfill is low in oxygen (<5%) and cannot support combustion.

At the flare station, oxygen is introduced and controlled by the flare actuator and louvers to create optimum burning conditions. Nitrogen has no effect on the system operation since it is an inert gas; however, the presence of nitrogen more than 10% may suggest ambient air intrusion. The gas quality averages for each well are illustrated in the graph below.

Graph 4-2 Average Methane Concentrations per Extraction Well



The average methane composition during this period was 62.6% (up from 53.09% the previous year). Forty-Four wells had an average methane concentration above the 45% methane goal. two of the fifty-two wells were below the goal (>45%) but within 5% of it. The remaining six wells had average methane concentrations less than 40%. five of the six wells are located along the perimeter of the Landfill or in low lying areas. Diminishing methane levels are expected in these areas and data from the last 20 years, which show a reduction in methane production along the perimeter, confirms this. Methane production and accumulation along the Landfill perimeter remains low despite limiting the flow using valve settings.

It was also observed during the reporting period that the historic area of low methane production located on the northwest side of the landfill (Figure 8) has now split forming two areas of low methane production. It was also reported that a small area along the east side and the southwest corner of the landfill also showed low methane production during the reporting period. It is not clear why methane production in this area have changed in 2021 operational year but monthly well balancing will continually be adjusted as necessary to account for these fluctuations.

Table 4-1 compares the average monthly methane level measured at the extraction wells to the average monthly methane composition measured at the flare station.

Table 4-1 Summary of Extraction Well Measurements 2021

Month	Average Methane in Well Field (%)	Average Methane at Flare (%)	Difference (%)
January	---	---	---
February	51.4	49.1	2.3
March	69.9	53.1	16.8
April	61.6	42.5	19.1
May	63.6	50.6	13.0
June	62.6	40.5	22.1
July	65.0	54.2	10.8
August	54.4	41.0	13.4
September	61.8	48.4	13.4
October	65.7	35.0	31.7
November	55.7	29.1	26.6
December	73.0	36.0	37.0

Note:
--- Flare was not operational during the reporting period

Based on the data presented in Table 4-1 there is a measurable difference between the average percent methane in the well field versus the average percent methane measured at the flare station (Appendix D) during all months except January, when the system was not running, and February. This may be due to increased landfill gas production at the well head related to warmer weather conditions experienced over the course of the 2021 reporting period.

Smaller variances observed in other months are likely due to the absence of methane levels reported from the surface collectors (A and K). The surface collectors are located at a relatively flat portion of the Landfill where historic land filling activities were significantly less than most of the remaining Landfill areas. The leg valves for the surface collectors (A and K) are set at 25% and 5% open, respectively. However, both legs are a short distance from the flare and are more impacted by the suction of the blowers than most other leg valves located further from the header pipe. The result is Landfill gases are removed from these areas in greater volume, especially at start-up, which likely contributes to failed restarts at the flare station.

Intrusion may be occurring at well heads where damaged sample ports and damaged flexible hoses have been observed. At these damaged areas, it is common to observe ambient air being drawn into the gas extraction system. These breaches are typically small and are temporarily sealed with duct tape until a more permanent remedy is in place such as the installation of new well head risers. As more well heads are replaced, the overall quality of gas removed from each well has increased over time.

Any additional discrepancies that exist between landfill gases in the well field compared to the flare station may attribute to a combination of factors including the following:

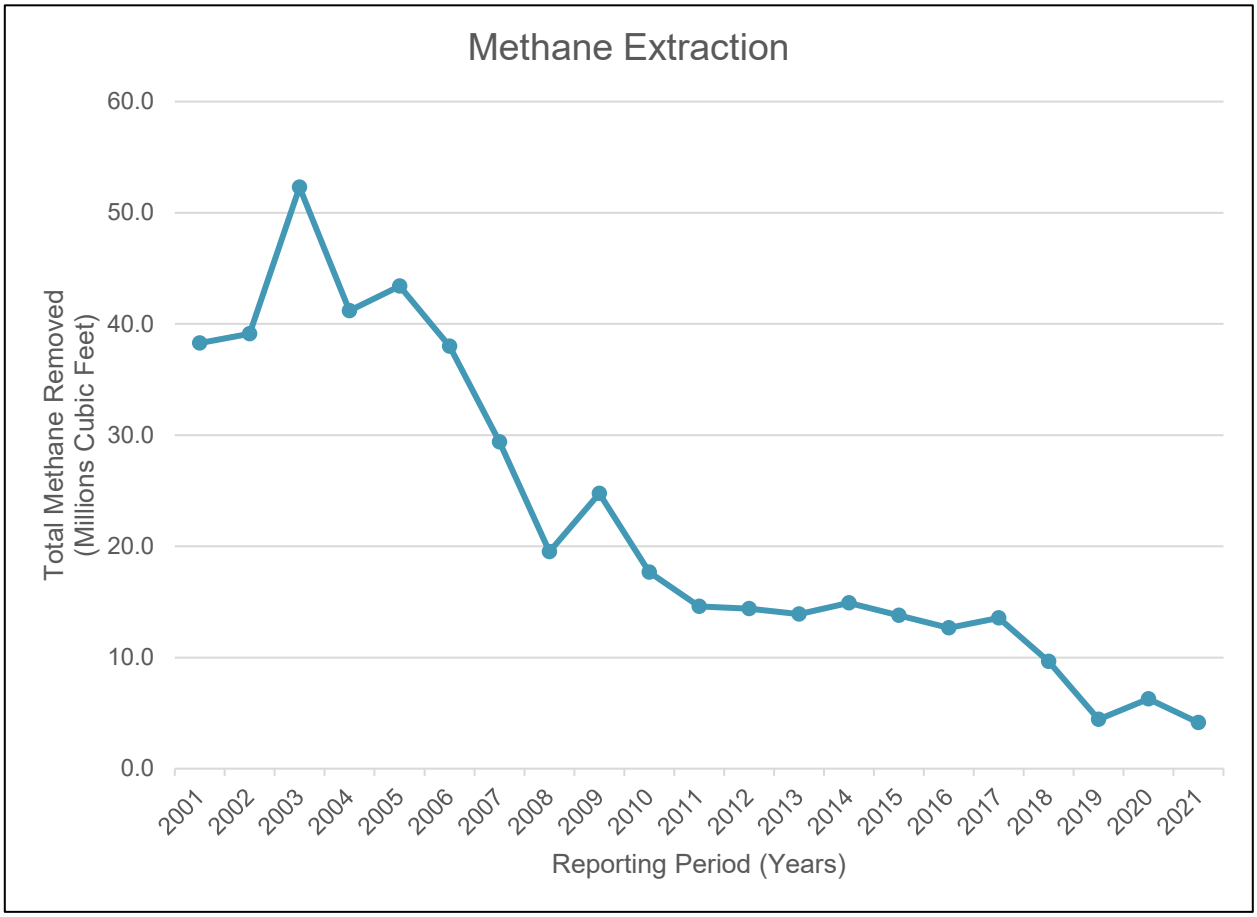
- individual well head valve settings,
- time of day flare operation was observed, and
- lag-time attributed to the distance from individual wells to the flare.

Most of the poorest methane producing wells and surface collectors are located closest to the flare station, which places the greatest amount of vacuum pull on the poorest producing section of the Landfill. This has been augmented by restricting flow through valves to optimize the gas mixture.

Since the data is collected monthly, the actual percentage or total methane removed as the gas composition recorded does not necessarily reflect the actual gas composition fluctuation throughout the entire run cycle over a daily, monthly, or annual period. The readings are recorded throughout well balancing and are consistent relative with one another; therefore, they can be used to approximate methane removal on a comparative daily, monthly, and annual basis.

Graph 4-3 illustrates annual methane removal at the Landfill as an approximation based on field measurements recorded during monthly O&M events. An estimated 4.1 million cubic feet of methane were removed during the 2021 reporting period. The graph illustrates the decreasing rate of methane removal from the Landfill over the past 20 reporting periods.

Graph 4-3 Annual Methane Removal over Time



4.3 Off-Site Landfill Gas Monitoring

Evaluation of off-site monitoring wells is performed by a third-party consultant for the Town of Clarkstown and reported independently of this report.

5 Other Landfill Gas Systems

This section provides the inspection/maintenance reports for:

- LFG Knockout Tank
- Aboveground LFG Condensate Storage Tank
- Landfill Final Cover System
- Leachate Collection System

5.1 LFG Knockout Tank

Condensate has not been historically observed at the knockout tank or the condensate pump station. Drip legs are located at the low points along each leg, except Leg L and along the eastern edge of the Landfill (DL-1), leaving condensate from the surface collectors, GE-1, GE-2, and Leg L as the only areas that are not influenced by any of the drip leg assemblies. Most of these areas are relatively flat and historically there appears to be a minimal amount of landfill material placed in this area. The anticipated development and accumulation of condensate is minimal; therefore, little to no condensate would be expected in the knockout tank. The exceptions are GE-50, GE-51, and GE-52 – all of which are located along Leg L. These three wells are located along the east slope and top of the Landfill where condensate is anticipated to develop and accumulate at greater frequency and volume. Based upon the grade change and extraction well location, accumulation of condensate and ultimate blockage of the Leg L with condensate occur between wells GE-50 and GE-49.

5.2 Aboveground LFG Condensate Storage Tank

No condensate has been observed in the storage tank as discussed since the installation of the system.

5.3 Landfill Final Cover System

The Landfill Final Cover System is inspected for drainage and erosion quarterly in accordance with the procedures described on the Final Cover Inspection checklist and Form FCS-1, which have been included in Appendix F.

The Landfill is designed with a system of vegetated berms, dikes, and drainage ditches. Eight drainage basins are located at the Landfill. Drainage at the Landfill has been adequate, and no reported instances of erosion or ponding have been documented during this reporting period. However, several areas of the Landfill have been identified as being

'soft', particularly in the areas between GE-36 and GE-37, the area around GE-4 and the area between GE-3, GE-2 and GE-10.

Solar panels have been installed on the Landfill cap along the eastern side of the Landfill. The solar panel field occupies roughly 15% of the landfill footprint. This area is still maintained by the Town of Clarkstown.

The Landfill is surrounded by an access road shown in Figure 9. A second road is located along the crest of the Landfill. During monthly site visits, HDR inspects the roads for potholes, ponding, settlement, or erosion and documents the inspections on Roadway Inspection Sheets (Appendix G).

5.4 Leachate Collection System

Leachate from each collection chamber is pumped directly into the sanitary sewer system managed by Rockland County Sewer District #1. A flow meter was installed by the Town at the end of the leachate line prior to the sewer pump house in November 2016 to track the volume of leachate discharged to the sanitary sewer system. No flow has been recorded to date. Leachate is observed in the collection chambers during inspections but at levels too low to be trigger discharge to the sewer system. Leachate production is expected to diminish over time. Inspection of the leachate collection chambers is documented on Form FS-3 which can be found in Appendix A of this report.

6 Conclusions

Landfill operations have been effective in managing LFG and leachate during this reporting period. The levels of methane at the Landfill have fluctuated with time but continue demonstrate a down word trend. Diminishing levels are most evident around the perimeter of the Landfill.

A difference between the methane levels at the well field versus the methane level at the flare continues to be noted. HDR will continue to evaluate the levels between the landfill gas extraction wells and the leg valves to identify any locations that explain the discrepancy. HDR will also continue to balance the LFG collection system as necessary to optimize the running time of the system.

The Town continues to invest in maintaining the aging LFG collection system at the site. It is anticipated that additional gas extraction well head upgrades and blower maintenance will continue as necessary, However, the Town/HDR would also like to open a dialogue with the State to explore the ability of converting the active collection system to a passive venting option during the second of the 2022 O&M season.

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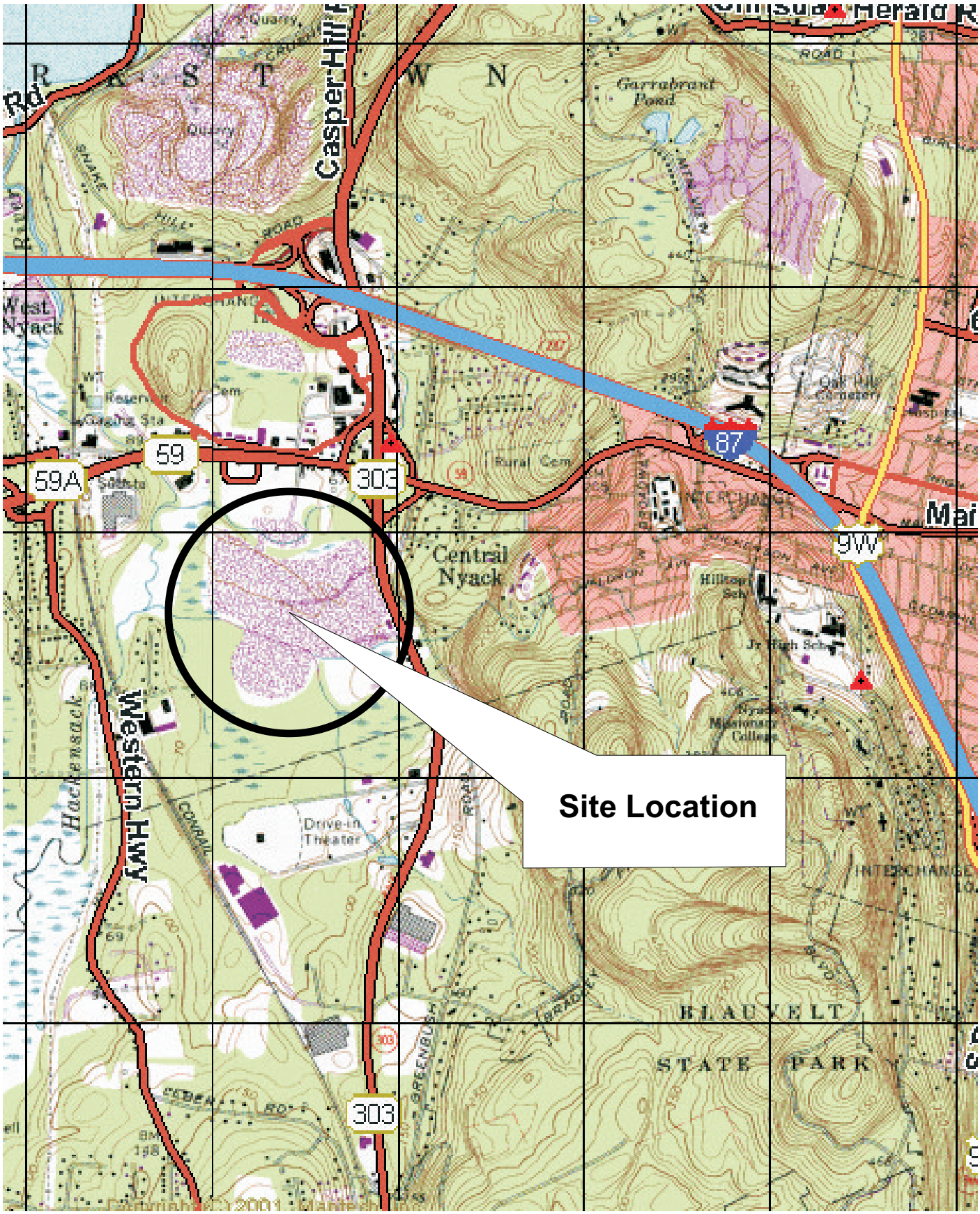
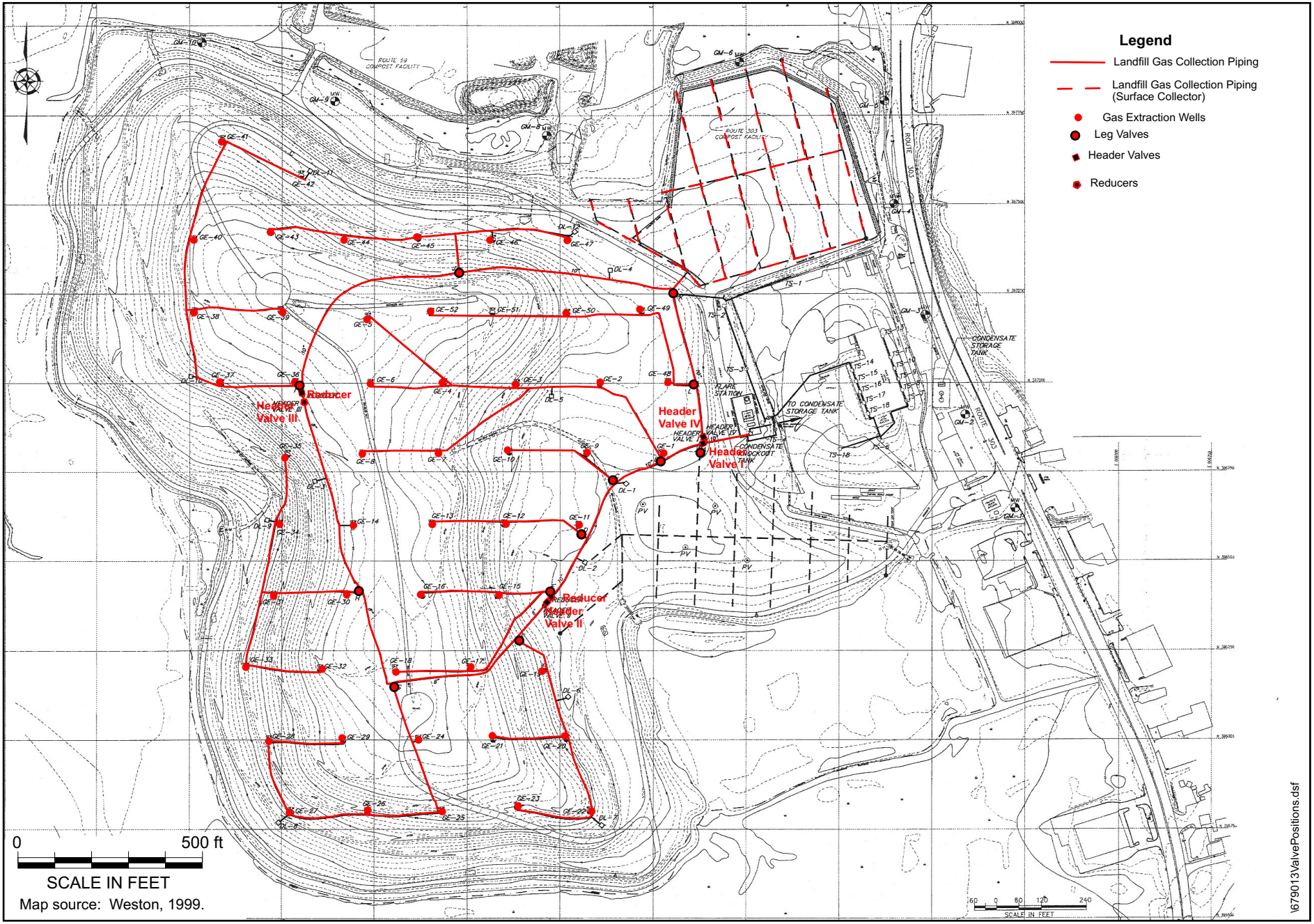
Figures



Source: US Quadrangle Nyack, NY 1967, Photorevised 1979

Henningson, Durham & Richardson Architecture and Engineering, P.C. in association with HDR Engineering, Inc. 404 Airport Executive Park Nanuet, NY 10954	Clarkstown Landfill Location Clarkstown Landfill West Nyack, NY 10994	Figure 1

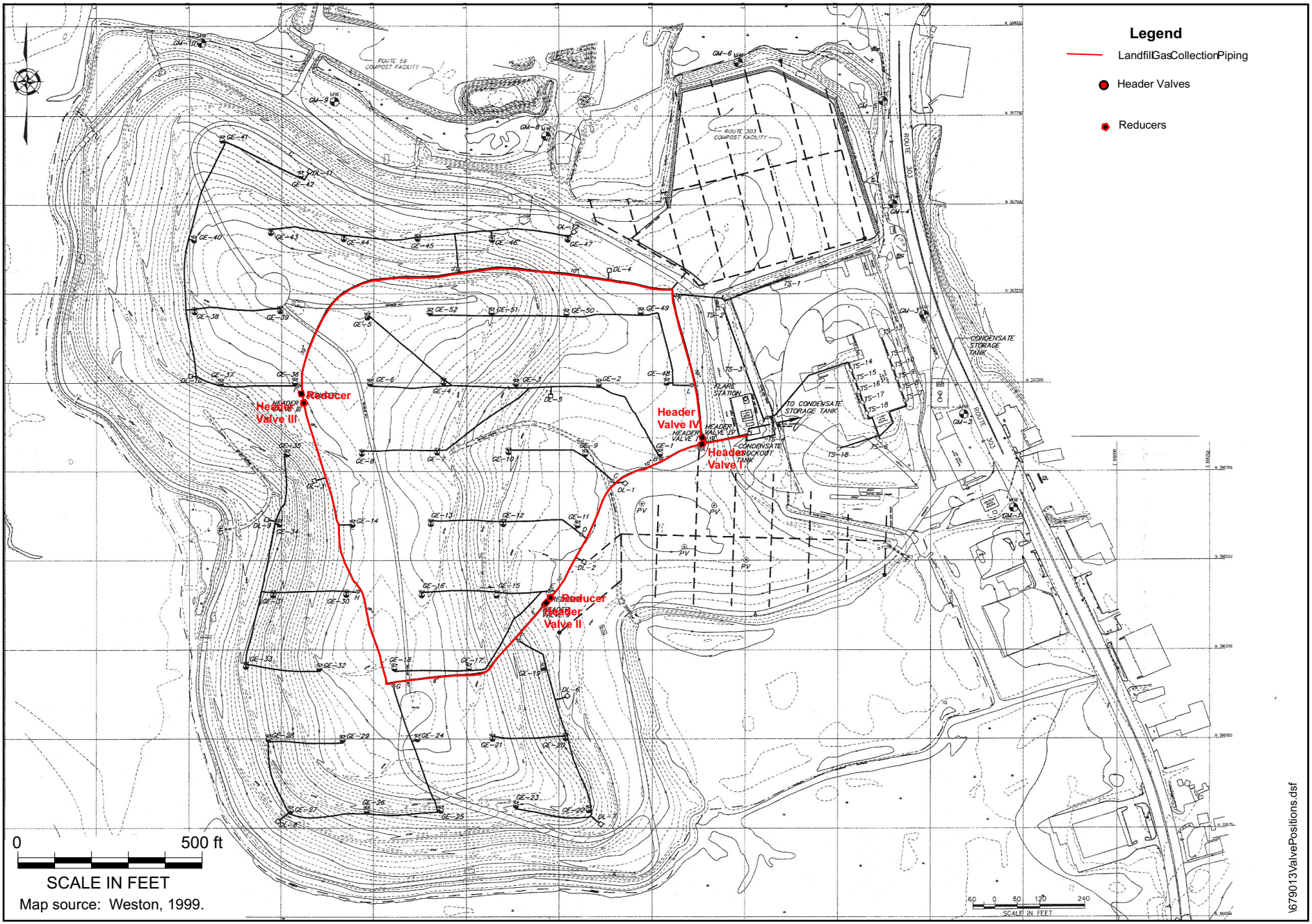


Henningson, Durham & Richardson Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive
Park Nanuet, NY 10954

Landfill Gas Collection Network
Clarkstown Landfill
West Nyack, NY 10994

Figure 2



Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Landfill Gas Header Pipe
Clarkstown Landfill
West Nyack, NY 10994

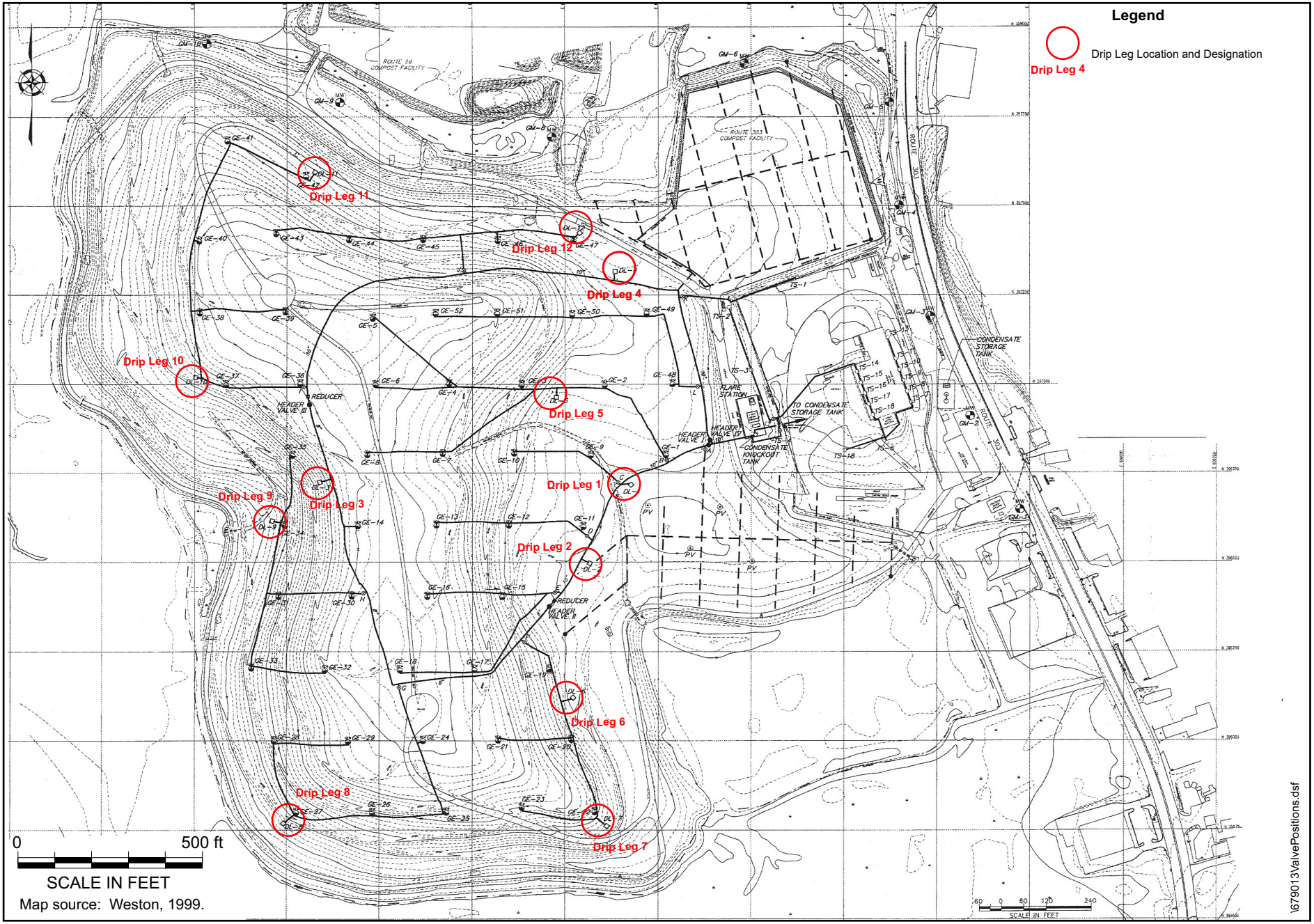
Figure 3

Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Surface Collector Network
Clarkstown Landfill
West Nyack, NY 10994

Figure 4

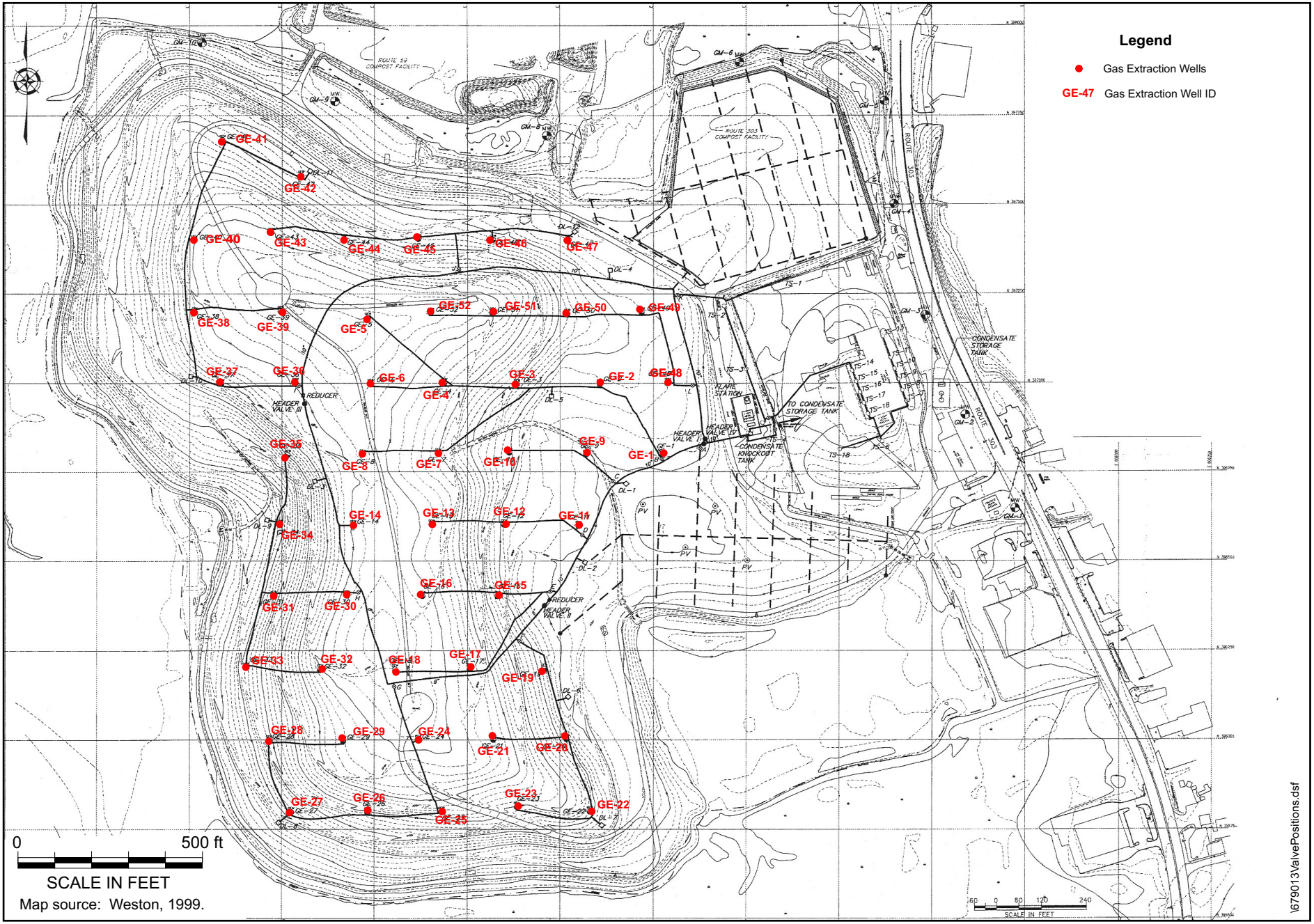


Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Drip Leg Assembly Locations
Clarkstown Landfill
West Nyack, NY 10994

Figure 5



Map source: Weston, 1999.

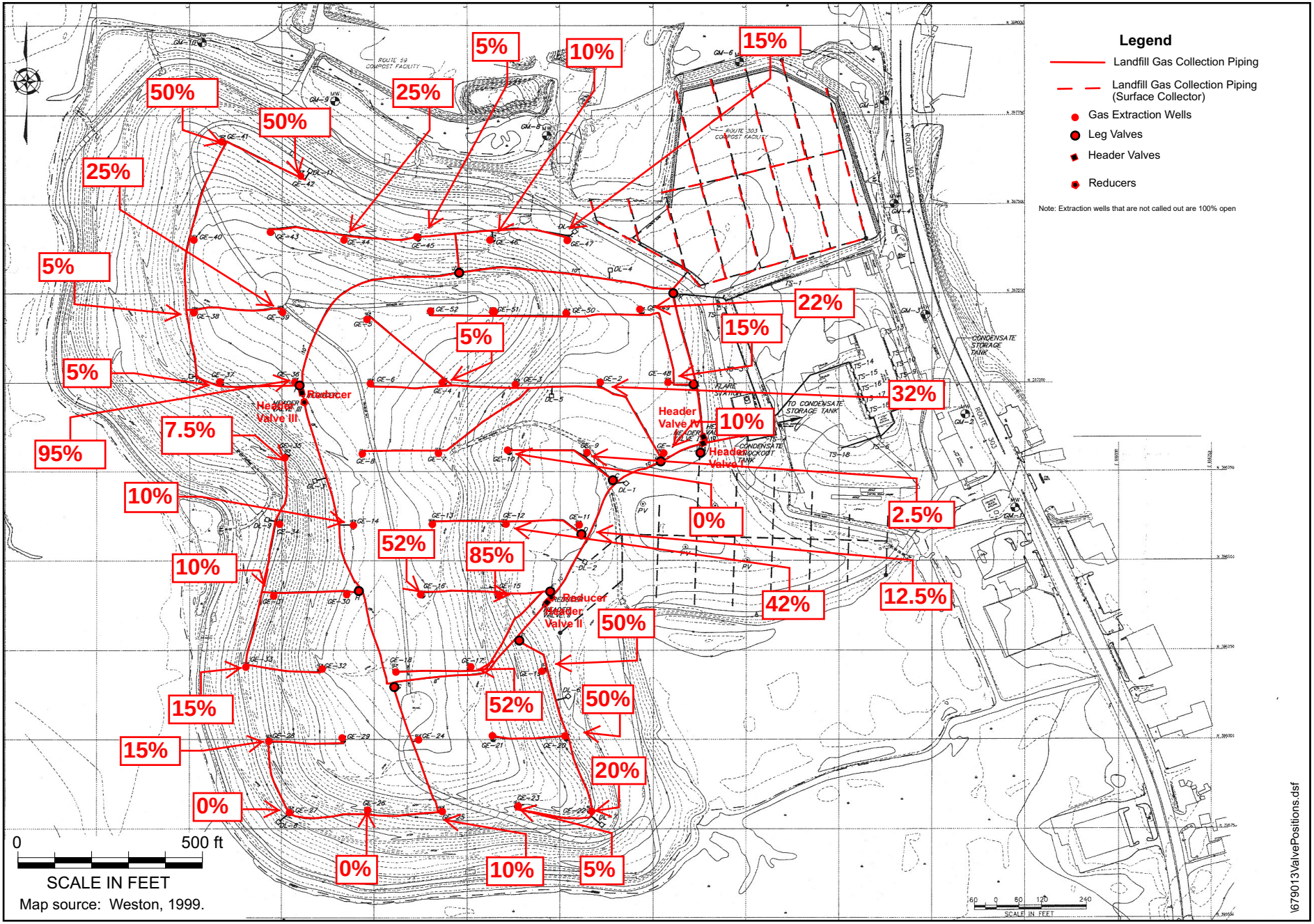
\679013\ValvePositions.dsf

Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Gas Extraction Wells
Clarkstown Landfill
West Nyack, NY 10994

Figure 6

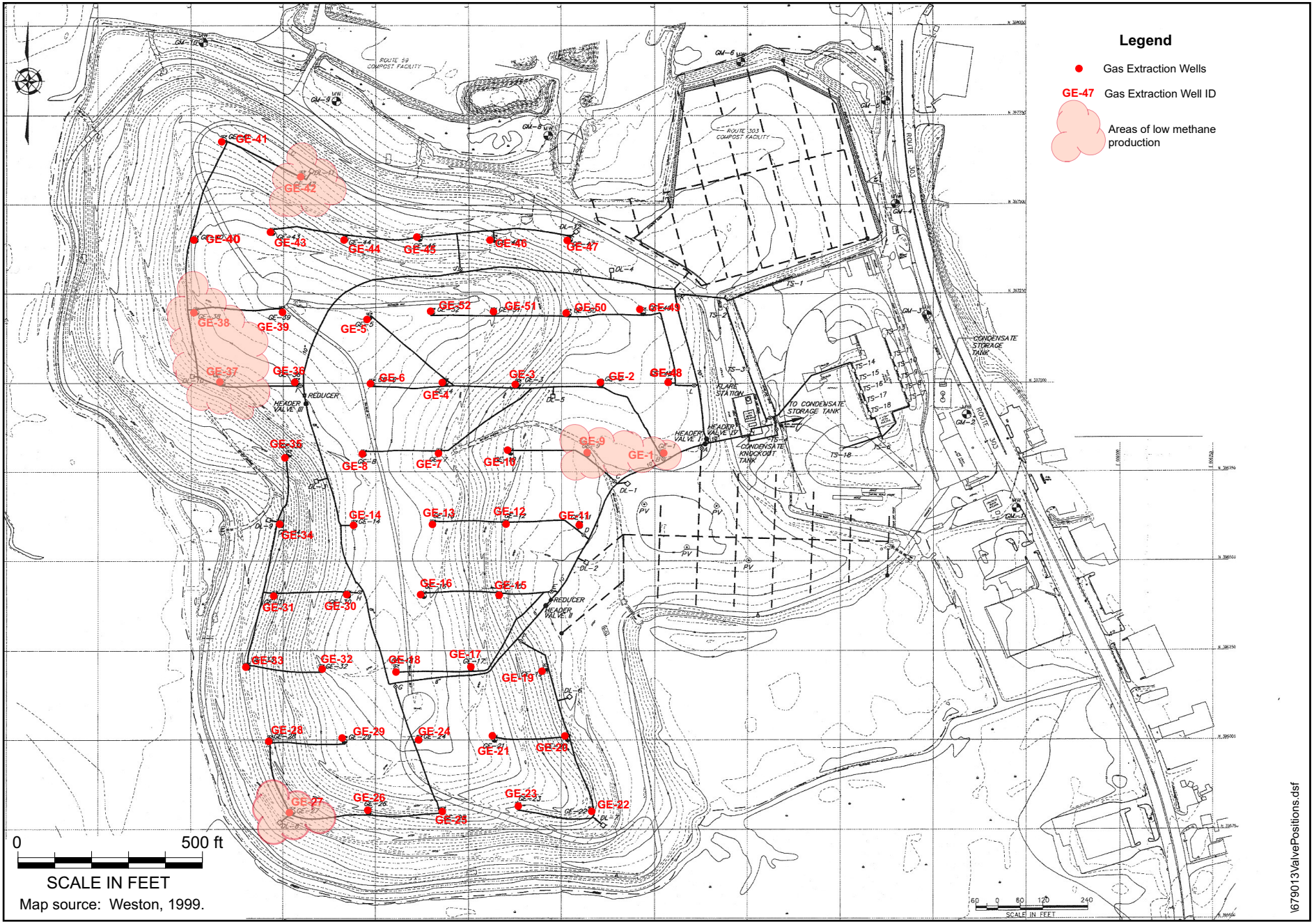


Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Well Head Valve Settings
Clarkstown Landfill
West Nyack, NY 10994

Figure 7

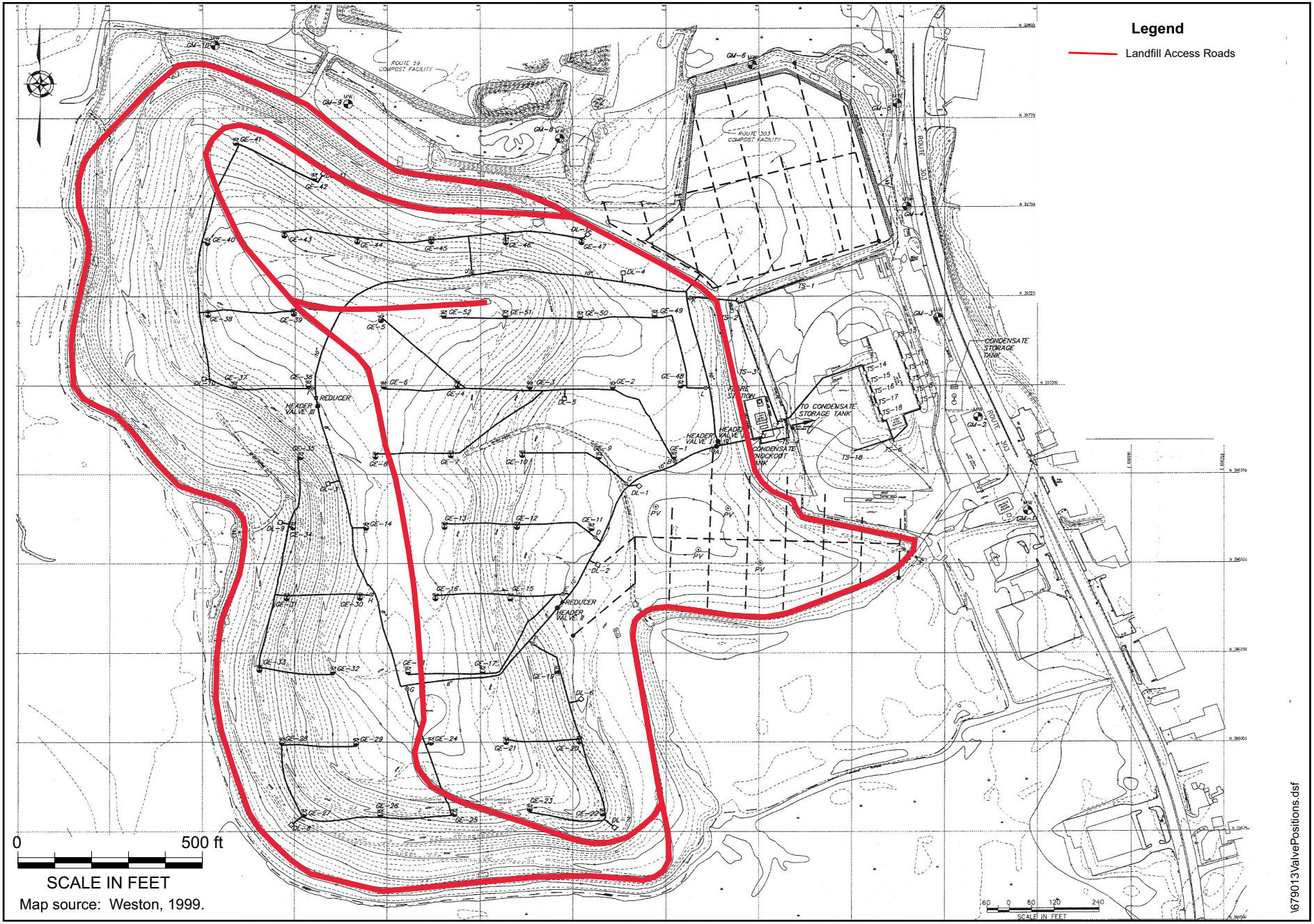


Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Localized Area of Low Methane Readings
Clarkstown Landfill
West Nyack, NY 10994

Figure 8



Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Landfill Access Roads
Clarkstown Landfill
West Nyack, NY 10994

Figure 9

A

FS-3 Forms

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 1/28/2021 Inspector's Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 2/23/2021 Inspector's Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 3/26/2021 Inspector's Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 4/23/2021 Inspector's Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 5/27/2021 Inspector's Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 6/28/2021 Inspector's Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 8/6/2021(July 2021) Inspector's Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 8/28/2021 Inspector's Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 9/30/2021 Inspector's Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 10/29/2021 Inspector's Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 11/29/2021 Inspector's Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
Knockout Tank and Surrounding Area – Visually Inspect and Note:		
12	Any settling or buoyant rising	X
Surface Collectors:		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
Aboveground Condensate Storage Tank		
15	Inspect anchor bolts for firmness and integrity	X
Enclosed Ground Flare		
16	Inspect and periodically clean out the flame arrestor	X
Leachate Collection Chambers		
17	Inspect leachate collection chambers	X

Notes:
1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 12/22/2021 Inspector's Initials: BKM

B

DP-1Forms

February 28, 2022

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
1. **Many of the vaults are experiencing the effects of settling.** 2. **System will not run High level LEL alarm keeps tripping**
ACTION TAKEN:
1. **Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault doors are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.** 2. **Further diagnosis indicated that the controller unit and LEL sensors are working properly. System is losing current through the lines causing the shutdown milliamp discrepancy causing the shutdown.**
RECOMMENDATIONS:
1. **Replace with new above grade well heads (eliminate vaults).** 2. **Diagnose wiring for corrosion, damage loose connections etc.**

Date: 1/28/2021 Inspector's Initials: BKM

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
1. **Many of the vaults are experiencing the effects of settling.** 2. **System will not run High level LEL alarm keeps tripping.**
ACTION TAKEN:
1. **Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault doors are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.** 2. **Further diagnosis indicated that the system is operating properly and no corrosion, loose or damaged wires were found.**
RECOMMENDATIONS:
1. **Replace with new above grade well heads (eliminate vaults).** 2. **After discussion with the System Manufacture, Local building code officials, and a survey of the ambient atmosphere in the butler building, it is recommended to remove the LEL sensors from the logic code.**

Date: 2/23/2021 Inspector's Initials: MTP

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 3/26/2021 Inspector's Initials: BKM

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 4/23/20201 Inspector's Initials: BKM

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
1. Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
1. Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
1. Replace with new above grade well heads (eliminate vaults).

Date: 5/27/2021 Inspector's Initials: BKM

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 6/28/2021 Inspector's Initials: BKM

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
1. **Many of the vaults are experiencing the effects of settling.** 2. **Having flow issues with the system consulted with manufactures. Took most of the month to trouble shoot system.**
ACTION TAKEN:
1. **Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.** 2. **Cleaned flow tubes and sensors**
RECOMMENDATIONS:
1. **Replace with new above grade well heads (eliminate vaults).** 2. **Periodic cleaning of flow tubes**

Date: 8/06/2021(for July 2021) Inspector's Initials: MTP

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 8/28/2021 Inspector's Initials: BKM

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 9/30/2021 Inspector's Initials: MTP

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 10/29/2021 Inspector's Initials: MTP

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 11/29/2021 Inspector's Initials: MTP

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

REFERENCE INSPECTION FORM NO: 1 **RFW NOTIFICATION REFERRAL NO.:_____**

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 12/22/2021 Inspector's Initials: BKM

C

Well Balancing Forms

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
B	1/28/2021	1	No readings collected system was down due to LEL electrical Issue								10% Open
B	3/8/2021	1	16.1	4.7	17.1	62.1	-4.8	0.059	21.4	70	10% Open
B	3/26/2021	1	13.0	4.7	16.9	65.4	-1.3	-0.258	0.0	55	10% Open
B	4/23/2021	1	40.1	14.0	7.6	37.7	-3.4	0.0	0.0	61	10% Open
B	5/27/2021	1	45.4	15.9	5.7	33.0	-3.5	0.073	23.8	80	10% Open
B	6/28/2021	1	35.5	13.4	8.9	42.2	-3.5	0.028	14.7	86	10% Open
B	8/6/2021	1	7.4	2.6	18.0	72.0	-3.1	0.003	4.8	91	10% Open
B	8/28/2021	1	28.9	9.9	11.9	49.8	-3.3	0.031	15.5	79	10% Open
B	9/30/2021	1	5.5	2.3	193.0	729.0	-2.6	0.014	10.4	71	10% Open
B	10/29/2021	1	7.9	3.2	17.9	71.3	-2.5	0.019	12.1	60	10% Open
B	11/29/2021	1	8.2	3.2	13.9	74.7	-2.5	0.053	20.3	53.0	10% Open
B	12/22/2021	1	65.0	20.8	2.3	11.9	1.8	*	--	55	10% Open
B	1/28/2021	2	No readings collected system was down due to LEL electrical Issue								30% Open
B	3/8/2021	2	77.3	22.3	0.2	0.2	-3.3	-0.209	0.0	59	30% Open
B	3/26/2021	2	73.8	23.4	0.2	2.6	-1.2	0.030	15.3	55	30% Open
B	4/23/2021	2	72.6	23.7	0.0	3.7	-2.5	-0.1	0.0	55	30% Open
B	5/27/2021	2	74.7	24.0	0.0	1.3	-2.5	0.038	17.2	66	30% Open
B	6/28/2021	2	75.8	24.2	0.0	0.0	-2.0	0.018	11.8	73	Opened From 30% to 32%
B	8/6/2021	2	73.2	23.6	0.6	2.6	-2.5	0.030	15.3	71	32% Open
B	8/28/2021	2	70.9	26.8	0.0	2.3	-2.8	0.036	16.7	68	32% Open
B	9/30/2021	2	72.7	24.6	0.9	1.8	-2.1	0.036	16.7	65	32% Open
B	10/29/2021	2	72.5	26.8	0.5	0.2	-1.9	0.067	22.8	58	32% Open
B	11/29/2021	2	71.4	25.6	2.9	0.1	-2.0	-0.020	0.0	57	32% Open
B	12/22/2021	2	74.2	25.7	0.0	0.1	-1.3	*	--	65	Opened From 32% to 35%
B	1/28/2021	3	No readings collected system was down due to LEL electrical Issue								100% Open
B	3/8/2021	3	41.9	22.1	0.8	35.2	0.1	-0.360	0.0	64	100% Open
B	3/26/2021	3	56.0	20.7	0.0	23.3	-1.7	2.000	124.6	55	100% Open
B	4/23/2021	3	64.2	19.7	2.4	13.7	-2.9	-0.1	0.0	57	100% Open
B	5/27/2021	3	80.1	19.8	0.0	0.1	-2.8	0.013	10.0	75	100% Open
B	6/28/2021	3	0.3	19.6	0.0	0.1	-1.9	0.015	10.8	78	100% Open
B	8/6/2021	3	80.3	19.6	0.0	0.1	-2.9	0.057	21.0	86	100% Open
B	8/28/2021	3	79.8	20.1	0.0	0.1	-2.5	0.024	13.6	73	100% Open
B	9/30/2021	3	78.6	21.0	0.2	0.2	-2.1	0.038	17.2	71	100% Open
B	10/29/2021	3	71.9	21.7	0.0	6.4	-2.2	0.018	11.8	57	100% Open
B	11/29/2021	3	75.8	22.9	1.2	0.1	-2.1	0.287	47.2	47	100% Open
B	12/22/2021	3	77.1	22.8	0.0	0.1	-1.4	*	--	58	100% Open
B	1/28/2021	4	No readings collected system was down due to LEL electrical Issue								5% Open
B	3/8/2021	4	16.3	6.0	12.5	65.2	-0.2	0.039	17.4	70	5% Open
B	3/26/2021	4	63.3	17.3	0.0	19.4	0.5	0.002	3.9	66	5% Open
B	4/23/2021	4	64.4	16.1	0.0	19.5	-3.3	0.0	0.0	60	5% Open
B	5/27/2021	4	51.7	13.4	5.0	29.9	-3.6	0.091	26.6	82	5% Open
B	6/28/2021	4	57.5	16.7	2.1	23.7	-2.0	0.035	16.5	80	5% Open
B	8/6/2021	4	33.5	6.6	11.8	48.1	-3.2	0.009	8.4	93	5% Open
B	8/28/2021	4	29.9	6.3	12.5	51.3	-0.7	0.038	17.2	75	5% Open
B	9/30/2021	4	48.6	9.9	7.6	33.9	-2.0	0.037	16.9	71	5% Open
B	10/29/2021	4	31.1	8.1	10.3	50.5	-2.1	0.016	11.1	54	5% Open
B	11/29/2021	4	33.8	8.1	9.6	48.5	-2.1	0.021	12.8	40	5% Open
B	12/22/2021	4	70.6	17.8	0.9	10.7	-1.5	*	--	53	5% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
B	1/28/2021	5	No readings collected system was down due to LEL electrical Issue								100% Open
B	3/8/2021	5	52.5	25.2	0.0	22.3	0.1	0.035	16.5	60	100% Open
B	3/26/2021	5	70.5	25.4	0.0	4.1	0.7	0.012	9.7	64	100% Open
B	4/23/2021	5	65.4	24.8	0.1	9.7	-3.0	-0.1	0.0	60	100% Open
B	5/27/2021	5	74.9	23.0	0.0	2.1	-2.8	0.031	15.5	73	100% Open
B	6/28/2021	5	73.2	23.3	0.0	3.5	-1.9	0.029	15.0	76	100% Open
B	8/6/2021	5	72.1	24.3	0.4	3.2	-2.6	0.020	12.5	79	100% Open
B	8/28/2021	5	74.8	23.5	0.0	1.7	-2.4	0.029	15.0	73	100% Open
B	9/30/2021	5	74.0	25.1	0.7	0.2	-2.1	0.009	8.4	67	100% Open
B	10/29/2021	5	67.5	23.1	0.4	9.0	-1.8	0.047	19.1	60	100% Open
B	11/29/2021	5	72.1	23.0	1.6	3.3	-2.1	0.013	10.0	57	100% Open
B	12/22/2021	5	74.8	23.4	0.0	1.8	-1.4	*	--	65	100% Open
B	1/28/2021	6	No readings collected system was down due to LEL electrical Issue								100% Open
B	3/8/2021	6	29.7	16.0	0.4	53.9	-0.1	0.041	17.8	68	100% Open
B	3/26/2021	6	56.9	19.2	3.8	20.1	0.2	0.016	11.1	50	100% Open
B	4/23/2021	6	74.1	23.1	0.0	2.8	-3.2	0.0	0.0	54	100% Open
B	5/27/2021	6	77.0	22.9	0.0	0.1	-3.5	0.075	24.1	712	100% Open
B	6/28/2021	6	76.8	22.4	0.0	0.8	-2.0	0.005	6.2	79	100% Open
B	8/6/2021	6	78.5	21.3	0.0	0.2	-2.6	0.001	2.8	85	100% Open
B	8/28/2021	6	72.3	21.0	1.5	5.3	-0.7	0.043	18.3	70	100% Open
B	9/30/2021	6	78.3	21.5	0.1	0.1	-2.1	0.029	15.0	68	100% Open
B	10/29/2021	6	66.9	22.8	0.0	10.3	-2.1	0.013	10.0	53	100% Open
B	11/29/2021	6	75.4	23.8	0.7	0.1	-2.1	0.017	11.5	41	100% Open
B	12/22/2021	6	76.1	23.6	0.1	0.2	-1.5	*	--	50	100% Open
B	1/28/2021	7	No readings collected system was down due to LEL electrical Issue								100% Open
B	3/8/2021	7	5.2	6.1	10.0	78.7	-0.3	0.036	16.7	65	100% Open
B	3/26/2021	7	38.7	15.1	0.0	46.2	1.2	0.039	17.4	75	100% Open
B	4/23/2021	7	58.5	16.4	0.0	25.1	-3.3	0.0	0.0	58	100% Open
B	5/27/2021	7	81.4	14.5	0.0	4.1	-3.6	0.074	24.0	78	100% Open
B	6/28/2021	7	77.0	14.8	0.0	9.0	-3.5	0.051	19.9	86	100% Open
B	8/6/2021	7	73.5	13.9	1.8	10.8	-2.6	0.033	16.0	84	100% Open
B	8/28/2021	7	33.9	6.3	11.3	48.5	-0.7	0.034	16.2	74	100% Open
B	9/30/2021	7	65.4	17.9	1.7	15.0	-2.0	0.018	11.8	67	100% Open
B	10/29/2021	7	53.0	17.0	0.3	29.7	-1.9	0.013	10.0	53	100% Open
B	11/29/2021	7	66.6	15.1	2.3	16.0	-2.0	0.003	4.8	38	100% Open
B	12/22/2021	7	76.1	15.9	0.0	8.0	-2.6	*	--	50	100% Open
B	1/28/2021	8	No readings collected system was down due to LEL electrical Issue								100% Open
B	3/8/2021	8	18.4	10.4	3.8	67.0	-0.2	0.041	17.8	65	100% Open
B	3/26/2021	8	51.9	14.8	0.7	32.6	-2.0	0.003	4.8	59	100% Open
B	4/23/2021	8	77.4	15.3	0.0	7.3	-3.2	0.0	0.0	59	100% Open
B	5/27/2021	8	80.6	14.2	0.0	5.2	-3.5	0.091	26.6	77	100% Open
B	6/28/2021	8	78.6	14.2	0.0	7.2	-3.4	0.050	19.7	94	100% Open
B	8/6/2021	8	79.1	13.0	1.3	6.6	-2.6	0.002	3.9	84	100% Open
B	8/28/2021	8	73.4	12.7	2.0	11.7	-0.6	0.036	16.7	74	100% Open
B	9/30/2021	8	84.9	14.7	0.3	0.1	-1.9	0.022	13.1	67	100% Open
B	10/29/2021	8	72.2	16.4	0.5	10.9	-2.1	0.007	7.4	52	100% Open
B	11/29/2021	8	76.6	15.0	1.2	7.2	-2.0	0.019	12.1	40	100% Open
B	12/22/2021	8	79.2	15.3	0.3	5.2	-2.3	*	--	50	100% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
C	1/28/2021	9	No readings collected system was down due to LEL electrical Issue								0% Open
C	3/8/2021	9	29.9	8.6	11.6	49.9	-1.2	0.051	19.9	71	0% Open
C	3/26/2021	9	75.8	24.1	0.0	0.1	1.0	0.000	0.0	55	0% Open
C	4/23/2021	9	26.2	8.4	13.3	52.1	-1.3	0.0	0.0	63	0% Open
C	5/27/2021	9	14.8	4.5	16.9	63.8	-1.2	0.061	21.8	81	0% Open
C	6/28/2021	9	49.5	16.2	6.7	27.6	-1.4	0.031	15.5	87	0% Open
C	8/6/2021	9	6.9	2.9	18.3	71.9	-0.3	0.044	18.5	87	0% Open
C	8/28/2021	9	0.4	0.1	21.0	78.5	-1.9	0.039	17.4	78	0% Open
C	9/30/2021	9	17.4	5.9	15.1	61.6	-0.2	0.021	12.8	67	0% Open
C	10/29/2021	9	71.7	28.0	0.1	0.2	0.3	0.009	8.4	57	0% Open
C	11/29/2021	9	2.0	1.1	19.4	77.5	-0.6	0.008	7.9	39	0% Open
C	12/22/2021	9	73.6	25.1	1.1	0.2	-0.2	*	--	58	Opened From 0% to 2.5%
C	1/28/2021	10	No readings collected system was down due to LEL electrical Issue								0% Open
C	3/8/2021	10	52.1	22.6	0.3	25.0	--	--	--	Broken	0% Open
C	3/26/2021	10	69.7	24.7	0.0	5.6				Broken	0% Open
C	4/23/2021	10	0.4	0.3	21.0	78.3	--	--		Broken	0% Open
C	5/27/2021	10	7.1	3.0	19.5	70.5	----	----	----	Broken	0% Open
C	6/28/2021	10	0.4	0.1	20.9	78.6	---	---	---	Broken	0% Open
C	8/6/2021	10	74.3	25.2	0.5	0.0	0.0	-	-	Broken	0% Open
C	8/28/2021	10	0.4	0.1	20.6	78.9	-0.3	--	--	Broken	0% Open
C	9/30/2021	10	70.2	28.5	1.1	0.2	0.0	-	-	Broken	0% Open
C	10/29/2021	10	70.1	29.7	0.1	0.1	0.9	-	-	Broken	0% Open
C	11/29/2021	10	65.6	30.4	3.8	0.2	-0.2	-		Broken	0% Open
C	12/22/2021	10	69.7	30.2	0.0	0.1	1.3	--	--	Broken	0% Open
D	1/28/2021	11	No readings collected system was down due to LEL electrical Issue								10% Open
D	3/8/2021	11	67.6	20.8	0.4	11.2	-0.8	0.045	18.7	60	10% Open
D	3/26/2021	11	71.2	23.2	0.0	5.6	0.8	0.000	0.0	48	10% Open
D	4/23/2021	11	72.2	22.5	0.0	5.3	-0.6	0.0	0.0	57	10% Open
D	5/27/2021	11	75.0	22.8	0.0	2.2	-0.8	0.074	24.0	70	10% Open
D	6/28/2021	11	74.8	22.9	0.0	2.3	-0.8	0.034	16.2	77	Opened From 10% to 12%
D	8/6/2021	11	75.5	23.0	0.3	0.4	-0.7	0.026	14.2	79	12% Open
D	8/28/2021	11	73.6	25.1	0.0	1.3	-1.6	0.043	18.3	71	Opened From 12% to 12.5%
D	9/30/2021	11	73.3	24.7	1.5	0.5	-0.6	0.048	19.3	65	12.5% Open
D	10/29/2021	11	71.6	24.9	1.1	2.4	-0.1	0.004	5.6	54	12.5% Open
D	11/29/2021	11	65.5	24.5	2.2	7.8	-0.7	0.002	3.9	29	12.5% Open
D	12/22/2021	11	66.4	24.0	0.0	9.6	0.0	*	--	54	12.5% Open
D	1/28/2021	12	No readings collected system was down due to LEL electrical Issue								40% Open
D	3/8/2021	12	54.9	23.0	2.8	19.3	-2.5	-0.143	0.0	59	40% Open
D	3/26/2021	12	70.9	23.9	2.8	2.4	-1.5	-0.182	0.0	54	40% Open
D	4/23/2021	12	74.3	24.0	1.2	0.5	-2.4	0.1	22.6	58	40% Open
D	5/27/2021	12	75.2	24.4	0.3	0.1	-2.3	0.102	28.1	78	40% Open
D	6/28/2021	12	74.8	25.1	0.0	0.1	-2.1	0.011	9.2	77	Opened From 40% to 42%
D	8/6/2021	12	60.4	21.3	4.0	14.3	-2.3	0.017	11.5	85	42% Open
D	8/28/2021	12	73.9	26.0	0.0	0.1	-2.4	0.024	13.6	74	42% Open
D	9/30/2021	12	32.2	12.2	10.9	44.7	-1.9	0.047	19.1	68	42% Open
D	10/29/2021	12	52.9	22.3	5.8	19.0	-1.3	0.070	23.3	53	42% Open
D	11/29/2021	12	31.1	14.0	9.3	45.6	-1.8	0.001	2.8	39	42% Open
D	12/22/2021	12	69.6	29.9	0.4	0.1	-0.7	*	--	45	42% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
D	1/28/2021	13	No readings collected system was down due to LEL electrical Issue								100% Open
D	3/8/2021	13	69.3	198.4	0.7	10.6	-3.6	0.285	47.0	61	100% Open
D	3/26/2021	13	76.6	19.4	0.0	4.0	1.7	-0.011	0.0	69	100% Open
D	4/23/2021	13	77.6	18.9	0.0	3.5	-1.7	0.0	0.0	58	100% Open
D	5/27/2021	13	75.0	17.7	0.1	7.2	-1.9	-0.451	0.0	73	100% Open
D	6/28/2021	13	69.5	18.2	0.0	12.3	-3.0	0.014	10.4	79	100% Open
D	8/6/2021	13	74.8	18.9	0.1	6.2	-2.8	0.063	22.1	84	100% Open
D	8/28/2021	13	55.7	17.1	4.2	23.0	-0.6	0.041	17.8	74	100% Open
D	9/30/2021	13	74.1	20.9	0.7	4.3	-2.0	0.316	49.5	65	100% Open
D	10/29/2021	13	71.4	22.7	0.0	5.9	-0.3	0.359	52.8	59	100% Open
D	11/29/2021	13	66.3	21.6	2.1	10.0	-0.8	0.137	32.6	43	100% Open
D	12/22/2021	13	77.3	22.6	0.0	0.1	-0.6	*	--	59	100% Open
None	1/28/2021	14	No readings collected system was down due to LEL electrical Issue								10% Open
None	3/8/2021	14	50.1	16.7	0.5	32.7	-3.7	0.041	17.8	60	10% Open
None	3/26/2021	14	54.1	17.6	0.4	27.9	-1.3	0.008	7.9	59	10% Open
None	4/23/2021	14	55.5	18.5	0.0	26.0	-2.5	0.0	0.0	58	10% Open
None	5/27/2021	14	54.4	16.6	0.0	29.0	-2.8	0.088	26.1	73	10% Open
None	6/28/2021	14	59.5	16.6	0.0	23.9	-2.7	0.043	18.3	78	10% Open
None	8/6/2021	14	76.5	16.4	0.0	7.1	-2.4	0.034	16.2	83	10% Open
None	8/28/2021	14	44.4	12.1	6.7	36.8	-0.6	0.036	16.7	73	10% Open
None	9/30/2021	14	78.8	17.2	0.0	4.0	-2.1	0.037	16.9	66	10% Open
None	10/29/2021	14	73.1	19.4	0.6	6.9	-1.3	0.016	11.1	55	10% Open
None	11/29/2021	14	54.4	17.0	0.2	28.4	-1.5	0.022	13.1	44	10% Open
None	12/22/2021	14	65.5	17.4	0.1	7.3	-1.7	*	--	55	10% Open
E	1/28/2021	15	No readings collected system was down due to LEL electrical Issue								85% Open
E	3/8/2021	15	40.5	19.5	0.2	39.8	---	---	---	Broken	85% Open
E	3/26/2021	15	78.2	21.7	0.0	0.1				Broken	85% Open
E	4/23/2021	15	65.9	21.5	0.0	12.6	--	--		Broken	85% Open
E	5/27/2021	15	78.9	21.1	0.0	0.1	----	----	----	Broken	85% Open
E	6/28/2021	15	78.1	21.0	0.1	5.6	---	---	---	Broken	85% Open
E	8/6/2021	15	77.3	22.4	0.2	0.1	-2.2	-	-	Broken	85% Open
E	8/28/2021	15	76.8	22.5	0.0	0.7	-2.4	--	--	Broken	85% Open
E	9/30/2021	15	75.9	23.9	0.1	0.1	-1.9	-	-	Broken	85% Open
E	10/29/2021	15	67.9	23.3	0.1	0.7	-1.9	-	-	Broken	85% Open
E	11/29/2021	15	75.2	24.6	0.1	0.1	-1.9	-		Broken	85% Open
E	12/22/2021	15	73.0	23.5	0.0	3.5	-1.4	--	--	Broken	85% Open
E	1/28/2021	16	No readings collected system was down due to LEL electrical Issue								50% Open
E	3/8/2021	16	48.8	13.7	0.2	37.4	-4.7	0.015	10.8	56	50% Open
E	3/26/2021	16	83.8	13.8	0.0	2.4	1.3	0.001	2.8	68	50% Open
E	4/23/2021	16	79.8	15.6	0.1	4.5	-3.0	0.0	0.0	58	50% Open
E	5/27/2021	16	85.5	13.4	0.0	1.1	-3.3	0.099	27.7	77	100% Open
E	6/28/2021	16	77.1	13.0	0.0	10.8	-3.3	0.048	19.3	84	Opened From 50% to 52%
E	8/6/2021	16	87.3	12.4	0.0	0.3	-2.9	0.018	11.8	88	52% Open
E	8/28/2021	16	78.9	14.1	0.8	6.2	-0.5	0.034	16.2	74	52% Open
E	9/30/2021	16	86.4	13.5	0.0	0.1	-2.5	0.029	15.0	65	52% Open
E	10/29/2021	16	73.9	17.8	2.0	8.1	-1.8	0.021	12.8	54	52% Open
E	11/29/2021	16	71.1	14.2	1.1	13.6	-1.9	0.011	9.2	39	52% Open
E	12/22/2021	16	78.7	13.9	0.0	7.4	-2.5	*	--	51	52% Open

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Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
E	1/28/2021	17	No readings collected system was down due to LEL electrical Issue								50 % Open
E	3/8/2021	17	10.7	2.1	18.1	69.1	-4.8	0.029	15.0	63	50 % Open
E	3/26/2021	17	78.3	11.4	1.8	8.5	1.3	0.012	9.7	77	50 % Open
E	4/23/2021	17	56.9	8.6	6.6	27.9	-3.2	0.0	0.0	61	50 % Open
E	5/27/2021	17	69.0	8.7	4.3	18.0	-3.5	0.086	25.8	80	50 % Open
E	6/28/2021	17	86.4	9.9	2.8	13.8	-3.3	0.045	18.7	90	50 % Open
E	8/6/2021	17	36.0	5.0	11.4	47.6	-3.0	0.032	15.8	90	50 % Open
E	8/28/2021	17	36.0	5.6	11.7	46.7	-0.4	0.031	15.5	77	50 % Open
E	9/30/2021	17	15.2	2.7	16.4	65.7	-2.6	0.078	24.6	64	50 % Open
E	10/29/2021	17	21.7	3.8	14.8	59.7	-2.2	0.009	8.4	54	50 % Open
E	11/29/2021	17	19.5	3.3	13.9	63.3	-2.6	0.009	8.4	38	50 % Open
E	12/22/2021	17	48.6	7.1	9.1	35.2	-2.5	*	--	48	Opened From 50% to 52%
E	1/28/2021	18	No readings collected system was down due to LEL electrical Issue								100% Open
E	3/8/2021	18	54.0	12.0	1.0	33.0	---	---	---	Broken	100% Open
E	3/26/2021	18	86.4	13.5	0.0	0.1				Broken	100% Open
E	4/23/2021	18	81.1	12.4	0.7	5.8	--	--		Broken	100% Open
E	5/27/2021	18	87.5	12.3	0.0	0.0	----	----	----	Broken	100% Open
E	6/28/2021	18	65.3	11.5	1.1	13.0	---	---	---	Broken	100% Open
E	8/6/2021	18	85.2	11.1	1.4	2.3	-3.0	-	-	Broken	100% Open
E	8/28/2021	18	37.2	5.8	11.0	46.0	-0.4	--	--	Broken	100% Open
E	9/30/2021	18	86.1	12.0	1.6	0.3	-2.5	-	-	Broken	100% Open
E	10/29/2021	18	76.9	12.9	1.8	8.4	-2.2	-	-	Broken	100% Open
E	11/29/2021	18	82.7	13.2	3.9	0.2	-2.6	-		Broken	100% Open
E	12/22/2021	18	86.5	13.2	0.1	0.2	-2.5	--	--	Broken	100% Open
F	1/28/2021	19	No readings collected system was down due to LEL electrical Issue							Broken	50% Open
F	3/8/2021	19	44.2	21.1	0.1	34.0	---	---	---	Broken	50% Open
F	3/26/2021	19	77.0	22.9	0.0	0.1				Broken	50% Open
F	4/23/2021	19	72.5	22.8	0.0	4.7	--	--		Broken	50% Open
F	5/27/2021	19	78.3	21.7	0.0	0.1	----	----	----	Broken	50% Open
F	6/28/2021	19	78.1	21.8	0.0	0.0	---	---	---	Broken	50% Open
F	8/6/2021	19	76.6	23.0	0.3	0.1	-1.6	-	-	Broken	50% Open
F	8/28/2021	19	76.2	23.8	0.0	0.0	-1.7	--	--	Broken	50% Open
F	9/30/2021	19	74.9	24.9	0.1	0.1	-1.4	-	-	Broken	50% Open
F	10/29/2021	19	74.7	24.9	0.3	0.1	-1.3	-	-	Broken	50% Open
F	11/29/2021	19	73.6	26.0	0.2	0.2	-1.4	-		Broken	50% Open
F	12/22/2021	19	74.6	25.3	0.0	0.1	-0.7	--	--	Broken	50% Open
F	1/28/2021	20	No readings collected system was down due to LEL electrical Issue							Broken	50% Open
F	3/8/2021	20	41.9	19.7	0.2	38.2	---	---	---	Broken	50% Open
F	3/26/2021	20	77.5	22.4	0.0	0.1				Broken	50% Open
F	4/23/2021	20	76.3	23.5	0.0	0.2	--	--		Broken	50% Open
F	5/27/2021	20	80.5	19.4	0.0	0.1	----	----	----	Broken	50% Open
F	6/28/2021	20	77.1	22.8	0.0	0.0	---	---	---	Broken	50% Open
F	8/6/2021	20	77.5	22.2	0.2	0.1	-2.2	-	-	Broken	50% Open
F	8/28/2021	20	77.0	22.9	0.0	0.1	-1.7	--	--	Broken	50% Open
F	9/30/2021	20	76.5	22.7	0.7	0.1	-1.3	-	-	Broken	50% Open
F	10/29/2021	20	76.5	23.0	0.3	0.2	-1.3	-	-	Broken	50% Open
F	11/29/2021	20	72.4	27.2	0.3	0.1	-1.4	-		Broken	50% Open
F	12/22/2021	20	73.0	26.2	0.6	0.2	-0.7	--	--	Broken	50% Open

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Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
F	1/28/2021	21	No readings collected system was down due to LEL electrical Issue								100% Open
F	3/8/2021	21	83.3	12.9	1.7	2.1	-3.8	0.029	15.0	68	100% Open
F	3/26/2021	21	86.4	13.5	0.0	0.1	1.3	0.014	10.4	80	100% Open
F	4/23/2021	21	85.9	14.1	0.0	0.0	-2.4	0.0	0.0	61	100% Open
F	5/27/2021	21	86.6	13.3	0.0	0.1	-2.7	0.061	21.8	78	100% Open
F	6/28/2021	21	86.4	13.5	0.0	0.0	-2.4	0.039	17.4	86	100% Open
F	8/6/2021	21	68.6	9.7	4.5	17.2	-2.1	0.031	15.5	95	100% Open
F	8/28/2021	21	69.6	10.7	4.2	15.5	-0.3	0.033	16.0	78	100% Open
F	9/30/2021	21	65.6	10.0	5.5	18.9	-1.8	0.031	15.5	67	100% Open
F	10/29/2021	21	70.5	11.3	4.1	14.4	-1.3	0.014	10.4	54	100% Open
F	11/29/2021	21	63.5	10.2	5.8	20.5	-1.8	0.013	10.0	39	100% Open
F	12/22/2021	21	85.5	17.1	0.0	0.1	-0.8	*	--	55	100% Open
F	1/28/2021	22	No readings collected system was down due to LEL electrical Issue								5% Open
F	3/8/2021	22	59.2	20.1	0.2	20.5	0.0	0.004	5.6	56	5% Open
F	3/26/2021	22	70.6	22.9	0.0	6.5	0.5	0.007	7.4	51	5% Open
F	4/23/2021	22	60.7	24.1	0.3	14.9	-0.2	-0.1	0.0	58	5% Open
F	5/27/2021	22	70.8	21.2	0.0	7.6	-0.1	0.002	3.9	77	Opened From 5% to 10%
F	6/28/2021	22	65.3	22.6	0.2	11.9	-0.2	-0.002	0.0	76	Opened From 10% to 15%
F	8/6/2021	22	70.2	21.4	0.6	7.8	-0.2	0.015	10.8	82	15% Open
F	8/28/2021	22	72.0	23.3	0.0	4.7	-0.2	0.003	4.8	70	15% Open
F	9/30/2021	22	75.2	23.2	0.8	0.8	-0.3	0.003	4.8	64	15% Open
F	10/29/2021	22	72.6	23.7	0.2	3.5	0.1	0.021	12.8	58	15% Open
F	11/29/2021	22	74.6	24.1	0.9	0.4	-0.1	0.022	13.1	47	15% Open
F	12/22/2021	22	76.7	23.2	0.0	0.1	0.1	0.032	15.8	51	Opened From 15% to 20%
F	1/28/2021	23	No readings collected system was down due to LEL electrical Issue								5% Open
F	3/8/2021	23	65.2	20.9	0.0	13.9	---	---	---	Broken	5% Open
F	3/26/2021	23	73.9	22.4	0.0	3.7				Broken	5% Open
F	4/23/2021	23	73.1	21.9	0.0	5.0	--	--		Broken	5% Open
F	5/27/2021	23	77.0	20.5	0.0	25.0	----	----	----	Broken	5% Open
F	6/28/2021	23	76.0	21.1	0.0	2.9	---	---	---	Broken	5% Open
F	8/6/2021	23	77.0	21.6	0.0	1.4	-0.4	-	-	Broken	5% Open
F	8/28/2021	23	73.5	22.1	0.0	4.4	-0.8	--	--	Broken	5% Open
F	9/30/2021	23	76.4	23.3	0.0	0.3	-0.4	-	-	Broken	5% Open
F	10/29/2021	23	75.0	23.4	0.0	1.4	0.0	-	-	Broken	5% Open
F	11/29/2021	23	76.3	23.6	0.0	0.0	-0.4	-		Broken	5% Open
F	12/22/2021	23	76.4	23.5	0.0	0.1	0.1	--	--	Broken	5% Open
G	1/28/2021	24	No readings collected system was down due to LEL electrical Issue								100% Open
G	3/8/2021	24	69.1	14.6	2.7	13.6	-4.2	0.044	18.5	67	100% Open
G	3/26/2021	24	82.6	17.3	0.0	0.1	1.3	0.022	13.1	77	100% Open
G	4/23/2021	24	82.4	16.2	0.0	1.4	-2.6	0.0	0.0	59	100% Open
G	5/27/2021	24	83.4	16.1	0.0	0.1	-3.0	0.056	20.9	81	100% Open
G	6/28/2021	24	79.2	15.6	0.0	5.2	-2.8	0.039	17.4	94	100% Open
G	8/6/2021	24	58.0	10.6	6.2	25.2	-2.6	0.016	11.1	90	100% Open
G	8/28/2021	24	12.4	3.2	17.5	66.9	-0.4	0.034	16.2	75	100% Open
G	9/30/2021	24	53.6	10.6	7.1	28.7	-2.3	0.030	15.3	65	100% Open
G	10/29/2021	24	82.7	17.0	0.2	0.1	-1.9	0.007	7.4	55	100% Open
G	11/29/2021	24	64.3	13.4	4.8	17.5	-1.8	0.011	9.2	39	100% Open
G	12/22/2021	24	82.1	17.0	0.8	0.1	-1.2	*	--	51	100% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
G	1/28/2021	25	No readings collected system was down due to LEL electrical Issue								10% Open
G	3/8/2021	25	76.6	16.2	0.6	6.6	-4.0	0.044	18.5	60	10% Open
G	3/26/2021	25	74.7	18.8	0.0	6.5	1.4	0.044	18.5	80	10% Open
G	4/23/2021	25	79.1	17.8	0.0	3.1	-2.7	0.0	0.0	57	10% Open
G	5/27/2021	25	79.3	17.5	0.0	3.2	-3.0	0.049	19.5	77	10% Open
G	6/28/2021	25	81.2	16.3	0.0	2.5	-2.8	0.036	16.7	87	10% Open
G	8/6/2021	25	76.5	16.5	1.1	5.9	-2.6	0.017	11.5	84	10% Open
G	8/28/2021	25	80.3	17.4	0.0	2.3	-2.8	0.046	18.9	73	10% Open
G	9/30/2021	25	80.2	17.4	1.2	1.2	-2.3	0.026	14.2	66	10% Open
G	10/29/2021	25	78.5	16.8	1.1	3.6	-2.0	0.009	8.4	55	10% Open
G	11/29/2021	25	77.5	15.6	6.8	0.1	-3.0	0.004	5.6	43	10% Open
G	12/22/2021	25	80.5	15.6	0.0	3.9	-1.1	*	--	52	10% Open
G	1/28/2021	26	No readings collected system was down due to LEL electrical Issue								35% Open
G	3/8/2021	26	76.5	17.6	0.0	5.9	---	---	---	Broken	35% Open
G	3/26/2021	26	83.8	16.1	0.0	0.1				Broken	35% Open
G	4/23/2021	26	78.5	18.5	0.0	30.0	--	--		Broken	35% Open
G	5/27/2021	26	Damaged by Mower, Needs Repair								35% Open
G	6/28/2021	26	Damaged by Mower, Needs Repair								35% Open
G	8/6/2021	26	Damaged by Mower, Needs Repair								35% Open
G	8/28/2021	26	Damaged by Mower, Needs Repair								35% Open
G	9/30/2021	26	Damaged by Mower, Needs Repair								35% Open
G	10/29/2021	26	Damaged by Mower, Needs Repair								35% Open
G	11/29/2021	26	Damaged by Mower, Needs Repair								35% Open
G	12/22/2021	26	Damaged by Mower, Needs Repair								35% Open
G	1/28/2021	27	No readings collected system was down due to LEL electrical Issue								0% Open
G	3/8/2021	27	0.3	0.0	21.9	77.8	---	---	---	Broken	0% Open
G	3/26/2021	27	56.1	21.8	0.0	22.1				Broken	0% Open
G	4/23/2021	27	0.4	0.1	21.7	77.8	--	--		Broken	0% Open
G	5/27/2021	27	0.1	0.0	21.7	78.2	----	----	----	Broken	0% Open
G	6/28/2021	27	0.4	0.0	20.9	78.7	---	---	---	Broken	0% Open
G	8/6/2021	27	0.5	0.0	20.1	79.4	-0.4	-	-	Broken	0% Open
G	8/28/2021	27	0.4	0.0	20.7	78.9	-0.7	--	--	Broken	0% Open
G	9/30/2021	27	0.6	0.1	19.4	79.9	-0.4	-	-	Broken	0% Open
G	10/29/2021	27	46.7	22.4	0.5	30.4	0.0	-	-	Broken	0% Open
G	11/29/2021	27	0.1	0.0	21.3	78.6	-0.5	-		Broken	0% Open
G	12/22/2021	27	44.0	24.6	0.0	31.4	0.1	--	--	Broken	0% Open
G	1/28/2021	28	No readings collected system was down due to LEL electrical Issue								10% Open
G	3/8/2021	28	14.5	16.9	1.2	7.4	-0.9	0.036	16.7	62	10% Open
G	3/26/2021	28	74.7	14.6	0.0	16.7	1.1	0.037	16.9	80	10% Open
G	4/23/2021	28	67.5	18.0	0.0	14.5	-0.6	0.0	0.0	61	10% Open
G	5/27/2021	28	76.6	15.7	0.0	7.5	-0.9	0.088	26.1	73	10% Open
G	6/28/2021	28	77.9	16.5	0.1	11.5	-0.7	0.042	18.1	79	Opened From 10% to 12%
G	8/6/2021	28	77.5	16.4	0.5	5.6	-1.0	0.013	10.0	84	12% Open
G	8/28/2021	28	72.5	18.4	0.0	8.9	-1.1	0.036	16.7	71	Opened From 12% to 12.5%
G	9/30/2021	28	81.2	17.9	0.4	0.5	-0.9	0.026	-	66	12.5% Open
G	10/29/2021	28	77.1	19.5	0.1	3.3	-0.4	0.011	9.2	56	12.5% Open
G	11/29/2021	28	0.1	0.0	21.0	78.9	-1.0	0.015	10.8	40	12.5% Open
G	12/22/2021	28	65.8	20.7	0.0	13.5	-0.3	*	--	54	Opened From 12.5% to 15%

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
G	1/28/2021	29	No readings collected system was down due to LEL electrical Issue								100% Open
G	3/8/2021	29	81.6	8.4	2.6	7.4	-4.0	0.027	14.5	64	100% Open
G	3/26/2021	29	92.5	7.4	0.0	0.1	1.4	0.038	17.2	78	100% Open
G	4/23/2021	29	92.0	7.9	0.0	0.1	-2.4	0.0	0.0	59	100% Open
G	5/27/2021	29	93.6	7.0	0.0	0.1	-2.9	0.083	25.4	78	100% Open
G	6/28/2021	29	92.5	7.5	0.0	0.0	-2.7	0.055	20.7	88	100% Open
G	8/6/2021	29	82.9	5.6	3.0	8.5	-2.4	0.016	11.1	89	100% Open
G	8/28/2021	29	92.9	7.1	0.0	0.0	-2.6	0.052	20.1	76	100% Open
G	9/30/2021	29	59.1	4.7	6.8	29.4	-2.1	0.032	15.8	66	100% Open
G	10/29/2021	29	78.8	6.5	3.9	10.8	-2.0	0.012	9.7	53	100% Open
G	11/29/2021	29	79.2	0.9	3.9	10.0	-0.9	0.012	9.7	40	100% Open
G	12/22/2021	29	91.9	8.0	0.0	0.1	-2.1	*	--	48	100% Open
H	1/28/2021	30	No readings collected system was down due to LEL electrical Issue								100% Open
H	3/8/2021	30	62.2	15.3	0.6	21.2	-4.2	0.017	11.5	59	100% Open
H	3/26/2021	30	79.1	14.6	0.6	5.7	-1.6	0.005	6.2	56	100% Open
H	4/23/2021	30	76.2	16.9	0.0	6.9	-2.7	0.0	0.0	59	100% Open
H	5/27/2021	30	79.7	14.3	0.0	6.0	-3.1	0.076	24.3	75	100% Open
H	6/28/2021	30	75.8	14.2	0.0	10.0	-2.9	0.048	19.3	82	100% Open
H	8/6/2021	30	85.2	13.4	0.1	1.3	-2.6	0.023	13.4	89	100% Open
H	8/28/2021	30	67.6	23.6	1.3	7.5	-0.5	0.037	16.9	75	100% Open
H	9/30/2021	30	85.2	14.5	0.2	0.1	-2.3	0.320	49.8	65	100% Open
H	10/29/2021	30	79.8	19.0	0.0	1.2	-1.6	0.008	7.9	54	100% Open
H	11/29/2021	30	66.5	15.7	2.3	15.5	-1.6	0.018	11.8	40	100% Open
H	12/22/2021	30	72.1	14.7	0.3	13.4	-2.1	*	--	50	100% Open
H	1/28/2021	31	No readings collected system was down due to LEL electrical Issue								10% Open
H	3/8/2021	31	76.3	21.2	0.0	2.5	---	---	---	Broken	10% Open
H	3/26/2021	31	73.0	26.9	0.0	0.1				Broken	10% Open
H	4/23/2021	31	69.0	20.6	0.0	10.4	--	--		Broken	10% Open
H	5/27/2021	31	68.4	19.4	0.0	12.2	----	----	----	Broken	10% Open
H	6/28/2021	31	68.8	20.6	0.0	10.6	---	---	---	Broken	10% Open
H	8/6/2021	31	74.8	21.5	0.0	3.7	-2.8	-	-	Broken	10% Open
H	8/28/2021	31	32.6	10.5	11.1	45.8	-1.0	--	--	Broken	10% Open
H	9/30/2021	31	73.6	23.5	0.8	2.1	-2.4	-	-	Broken	10% Open
H	10/29/2021	31	74.4	23.2	1.0	1.4	-1.7	-	-	Broken	10% Open
H	11/29/2021	31	70.5	25.5	3.9	0.1	-2.2	-		Broken	10% Open
H	12/22/2021	31	71.3	25.1	0.0	3.6	-2.1	--	--	Broken	10% Open
H	1/28/2021	32	No readings collected system was down due to LEL electrical Issue								100% Open
H	3/8/2021	32	88.0	11.9	0.0	0.1	-4.0	0.021	12.8	62	100% Open
H	3/26/2021	32	89.7	10.2	0.0	0.1	1.4	0.021	12.8	73	100% Open
H	4/23/2021	32	88.4	11.6	0.0	0.0	-2.5	0.0	0.0	58	100% Open
H	5/27/2021	32	90.5	9.4	0.0	0.1	-3.0	0.082	25.2	77	100% Open
H	6/28/2021	32	85.6	9.6	0.0	4.8	-2.9	0.050	19.7	84	100% Open
H	8/6/2021	32	9.8	8.3	0.1	1.3	-2.5	0.170	36.3	88	100% Open
H	8/28/2021	32	77.8	18.2	0.3	3.7	-0.4	0.037	16.9	75	100% Open
H	9/30/2021	32	89.8	9.2	0.7	0.3	-2.2	0.026	14.2	67	100% Open
H	10/29/2021	32	88.0	11.6	0.3	0.1	-1.9	0.007	7.4	55	100% Open
H	11/29/2021	32	83.5	10.3	1.7	4.5	-2.1	0.002	3.9	41	100% Open
H	12/22/2021	32	83.6	10.3	0.6	5.5	-2.2	*	--	51	100% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
H	1/28/2021	33	No readings collected system was down due to LEL electrical Issue								25% Open
H	3/8/2021	33	75.2	19.6	0.6	4.6	-0.5	0.051	19.9	58	25% Open
H	3/26/2021	33	78.3	21.6	0.0	0.1	1.0	0.033	16.0	72	Closed From 25% to 12.5%
H	4/23/2021	33	69.8	20.9	0.0	9.3	-0.4	0.0	0.0	57	Closed From 12.5% to 12%
H	5/27/2021	33	75.6	19.3	0.0	5.1	-0.5	0.079	24.8	71	12% Open
H	6/28/2021	33	Aggressive hornets nest on Well Head, Could not collect readings								12% Open
H	8/6/2021	33	Aggressive hornets nest on Well Head, Could not collect readings								12% Open
H	8/28/2021	33	Aggressive hornets nest on Well Head, Could not collect readings								12% Open
H	9/30/2021	33	Aggressive hornets nest on Well Head, Could not collect readings								12% Open
H	10/29/2021	33	Aggressive hornets nest on Well Head, Could not collect readings								12% Open
H	11/29/2021	33	76.7	22.5	0.7	0.1	0.0	0.007	7.4	44	12% Open
H	12/22/2021	33	76.6	23.3	0.0	0.1	0.1	*	--	55	Opened From 12% to 15%
H	1/28/2021	34	No readings collected system was down due to LEL electrical Issue								100% Open
H	3/8/2021	34	74.3	24.5	0.0	1.2	---	---	---	Broken	100% Open
H	3/26/2021	34	73.4	26.5	0.0	0.1				Broken	100% Open
H	4/23/2021	34	70.6	25.3	0.9	3.2	--	--		Broken	100% Open
H	5/27/2021	34	73.9	26.0	0.0	0.1	----	----	----	Broken	100% Open
H	6/28/2021	34	73.1	26.7	0.0	0.2	---	---	---	Broken	100% Open
H	8/6/2021	34	72.7	27.2	0.0	0.1	-2.8	-	-	Broken	100% Open
H	8/28/2021	34	69.7	30.2	0.0	0.1	-1.0	--	--	Broken	100% Open
H	9/30/2021	34	71.5	27.9	0.6	0.0	-2.5	-	-	Broken	100% Open
H	10/29/2021	34	70.4	28.8	0.8	0.0	-1.8	-	-	Broken	100% Open
H	11/29/2021	34	71.0	28.9	0.0	0.1	-2.3	-		Broken	100% Open
H	12/22/2021	34	94.7	26.1	1.1	8.1	-2.1	--	--	Broken	100% Open
H	1/28/2021	35	No readings collected system was down due to LEL electrical Issue								0% Open
H	3/8/2021	35	41.8	19.4	3.5	35.3	0.0	0.044	18.5	68	0% Open
H	3/26/2021	35	57.1	22.7	0.0	20.2	1.2	0.026	14.2	78	0% Open
H	4/23/2021	35	59.2	22.9	0.0	17.9	0.0	0.0	0.0	60	0% Open
H	5/27/2021	35	20.8	7.2	13.9	58.1	-0.1	0.089	26.3	79	0% Open
H	6/28/2021	35	63.0	22.0	0.0	15.0	0.0	0.055	20.7	86	Opened From 0% to 2%
H	8/6/2021	35	72.6	24.4	0.0	3.0	-0.1	0.021	12.8	82	2% Open
H	8/28/2021	35	67.2	25.5	0.0	7.3	-0.4	0.045	18.7	76	Open From 2% to 5%
H	9/30/2021	35	73.1	26.6	0.2	0.1	0.0	0.018	11.8	67	5% Open
H	10/29/2021	35	70.3	25.4	0.0	4.3	0.4	0.005	6.2	59	5% Open
H	11/29/2021	35	72.0	26.6	1.2	0.2	-0.1	0.014	10.4	44	5% Open
H	12/22/2021	35	70.4	25.7	0.0	3.9	0.5	*	--	53	Opened From 5% to 7.5%
I	1/28/2021	36	No readings collected system was down due to LEL electrical Issue								100% Open
I	3/8/2021	36	71.4	17.3	0.3	11.0	-4.1	0.036	16.7	64	100% Open
I	3/26/2021	36	75.4	18.9	0.0	5.7	-1.8	0.019	12.1	61	Closed From 100% to 95%
I	4/23/2021	36	71.1	20.5	0.0	8.4	-2.6	-0.1	0.0	58	95% Open
I	5/27/2021	36	71.1	18.1	0.0	10.2	-2.6	0.036	16.7	77	95% Open
I	6/28/2021	36	79.0	17.8	0.0	3.2	-2.0	0.010	8.8	82	95% Open
I	8/6/2021	36	78.6	16.8	0.8	3.8	-2.3	0.020	12.5	84	95% Open
I	8/28/2021	36	79.9	18.4	0.0	1.7	-2.4	0.023	13.4	72	95% Open
I	9/30/2021	36	76.6	17.5	1.4	4.5	-1.8	0.031	15.5	66	95% Open
I	10/29/2021	36	79.3	20.6	0.0	0.1	-1.8	-0.008	0.0	55	95% Open
I	11/29/2021	36	71.2	19.8	0.6	8.4	-1.8	0.200	39.4	44	95% Open
I	12/22/2021	36	74.6	19.9	0.0	5.5	-1.2	*	--	52	95% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
I	1/28/2021	37	No readings collected system was down due to LEL electrical Issue								5% Open
I	3/8/2021	37	0.2	0.0	21.9	77.9	---	---	---	Broken	5% Open
I	3/26/2021	37	66.3	33.6	0.0	0.1				Broken	5% Open
I	4/23/2021	37	3.1	2.4	19.0	75.5				Broken	5% Open
I	5/27/2021	37	0.5	0.1	20.8	78.6	----	----	----	Broken	5% Open
I	6/28/2021	37	13.7	6.6	16.9	62.8	---	---	---	Broken	5% Open
I	8/6/2021	37	27.7	14.3	11.5	46.5	0.0	-	-	Broken	5% Open
I	8/28/2021	37	0.4	0.1	20.5	79.0	-0.5	--	--	Broken	5% Open
I	9/30/2021	37	18.0	9.0	15.0	58.0	0.0	-	-	Broken	5% Open
I	10/29/2021	37	66.0	33.9	0.0	0.1	0.5	-	-	Broken	5% Open
I	11/29/2021	37	12.8	6.5	16.6	64.1	-0.1	-		Broken	5% Open
I	12/22/2021	37	65.5	34.4	0.0	0.1	1.1	--	--	Broken	5% Open
I	1/28/2021	38	No readings collected system was down due to LEL electrical Issue								5% Open
I	3/8/2021	38	38.8	19.1	0.0	42.1	---	---	---	Broken	5% Open
I	3/26/2021	38	58.2	20.1	0.0	21.7				Broken	5% Open
I	4/23/2021	38	49.3	13.2	6.7	30.8				Broken	5% Open
I	5/27/2021	38	2.4	1.1	20.8	75.7	----	----	----	Broken	5% Open
I	6/28/2021	38	0.1	0.0	21.3	78.6	---	---	---	Broken	5% Open
I	8/6/2021	38	73.5	20.5	0.2	5.8	0.0	-	-	Broken	5% Open
I	8/28/2021	38	0.1	0.0	21.0	78.9	-0.4	--	--	Broken	5% Open
I	9/30/2021	38	48.6	16.1	4.8	30.5	0.0	-	-	Broken	5% Open
I	10/29/2021	38	31.0	17.6	1.5	49.9	0.5	-	-	Broken	5% Open
I	11/29/2021	38	11.3	3.4	18.2	67.2	0.0	-		Broken	5% Open
I	12/22/2021	38	69.6	23.3	0.0	7.1	1.2	--	--	Broken	5% Open
I	1/28/2021	39	No readings collected system was down due to LEL electrical Issue								25% Open
I	3/8/2021	39	29.8	16.9	0.3	53.0	---	---	---	Broken	25% Open
I	3/26/2021	39	55.0	21.5	0.0	23.5				Broken	25% Open
I	4/23/2021	39	55.6	15.0	4.4	25.0				Broken	25% Open
I	5/27/2021	39	62.7	22.0	0.2	15.1	----	----	----	Broken	25% Open
I	6/28/2021	39	0.0	0.0	21.4	78.6	---	---	---	Broken	25% Open
I	8/6/2021	39	76.0	18.4	0.0	5.6	0.0	-	-	Broken	25% Open
I	8/28/2021	39	16.8	4.3	16.3	2.6	-0.4	--	--	Broken	25% Open
I	9/30/2021	39	52.6	11.3	2.6	27.5	0.0	-	-	Broken	25% Open
I	10/29/2021	39	71.7	20.5	0.0	7.8	0.6	-	-	Broken	25% Open
I	11/29/2021	39	35.9	12.3	9.2	42.6	0.0	-		Broken	25% Open
I	12/22/2021	39	42.6	20.8	0.0	36.6	1.2	--	--	Broken	25% Open
I	1/28/2021	40	No readings collected system was down due to LEL electrical Issue								100% Open
I	3/8/2021	40	44.3	15.1	0.3	40.3	---	---	---	Broken	100% Open
I	3/26/2021	40	63.8	18.2	0.0	18.0				Broken	100% Open
I	4/23/2021	40	74.1	19.1	0.0	6.8				Broken	100% Open
I	5/27/2021	40	70.2	19.2	0.0	10.6	----	----	----	Broken	100% Open
I	6/28/2021	40	72.8	20.0	0.0	7.2	---	---	---	Broken	100% Open
I	8/6/2021	40	77.9	19.5	0.0	2.6	0.0	-	-	Broken	100% Open
I	8/28/2021	40	78.7	17.6	0.0	3.7	-0.4	--	--	Broken	100% Open
I	9/30/2021	40	56.6	17.2	1.2	25.0	0.0	-	-	Broken	100% Open
I	10/29/2021	40	80.6	19.3	0.0	0.1	0.6	-	-	Broken	100% Open
I	11/29/2021	40	75.2	20.5	4.1	0.2	0.0	-		Broken	100% Open
I	12/22/2021	40	78.8	21.1	0.0	0.1	1.2	--	--	Broken	100% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
I	1/28/2021	41	No readings collected system was down due to LEL electrical Issue								50% Open
I	3/8/2021	41	49.8	17.5	0.0	32.7	---	---	---	Broken	50% Open
I	3/26/2021	41	66.4	18.2	0.0	15.4				Broken	50% Open
I	4/23/2021	41	0.4	0.1	20.9	78.6				Broken	50% Open
I	5/27/2021	41	0.8	0.2	21.7	77.3	----	----	----	Broken	50% Open
I	6/28/2021	41	64.5	15.1	2.0	18.4	---	---	---	Broken	50% Open
I	8/6/2021	41	71.9	16.1	0.5	11.5	0.0	-	-	Broken	50% Open
I	8/28/2021	41	68.2	15.3	1.9	14.6	-0.4	--	--	Broken	50% Open
I	9/30/2021	41	78.8	17.4	0.0	3.8	0.0	-	-	Broken	50% Open
I	10/29/2021	41	63.6	16.6	0.0	19.8	0.5	-	-	Broken	50% Open
I	11/29/2021	41	0.5	0.2	17.5	81.8	-0.1	-		Broken	50% Open
I	12/22/2021	41	80.7	17.7	0.0	1.6	1.1	--	--	Broken	50% Open
I	1/28/2021	42	No readings collected system was down due to LEL electrical Issue								50% Open
I	3/8/2021	42	27.1	11.2	2.8	58.9	---	---	---	Broken	50% Open
I	3/26/2021	42	53.4	20.0	0.0	26.6				Broken	50% Open
I	4/23/2021	42	31.5	8.4	12.6	47.5				Broken	50% Open
I	5/27/2021	42	22.4	6.3	14.7	56.6	----	----	----	Broken	50% Open
I	6/28/2021	42	26.7	7.3	12.6	52.5	---	---	---	Broken	50% Open
I	8/6/2021	42	36.7	8.4	9.4	45.5	-0.1	-	-	Broken	50% Open
I	8/28/2021	42	26.3	6.0	13.2	54.5	-0.4	--	--	Broken	50% Open
I	9/30/2021	42	8.9	2.8	17.7	70.6	0.0	-	-	Broken	50% Open
I	10/29/2021	42	59.3	21.9	0.0	18.8	..4	-	-	Broken	50% Open
I	11/29/2021	42	33.1	9.0	14.2	43.7	-0.1	-		Broken	50% Open
I	12/22/2021	42	66.1	22.5	0.0	11.4	1.1	--	--	Broken	50% Open
J	1/28/2021	43	No readings collected system was down due to LEL electrical Issue								100% Open
J	3/8/2021	43	77.1	19.0	0.6	3.3	-1.5	0.049	19.5	61	100% Open
J	3/26/2021	43	79.9	19.7	0.0	0.4	1.4	0.029	15.0	63	100% Open
J	4/23/2021	43	80.5	19.3	0.0	0.2	0.6	0.0	11.8	54	100% Open
J	5/27/2021	43	81.0	18.9	0.0	0.1	-0.5	0.031	15.5	71	100% Open
J	6/28/2021	43	81.4	17.6	0.0	1.0	-0.3	0.006	6.8	79	100% Open
J	8/6/2021	43	80.2	17.7	0.3	1.8	-0.3	0.032	15.8	81	100% Open
J	8/28/2021	43	81.9	16.0	0.1	2.0	-0.6	0.038	17.2	72	100% Open
J	9/30/2021	43	83.0	11.7	0.1	0.2	0.0	0.003	4.8	65	100% Open
J	10/29/2021	43	82.1	17.8	0.0	0.1	-1.8	0.013	10.0	60	100% Open
J	11/29/2021	43	82.8	16.9	0.2	0.1	0.0	0.005	6.2	42	100% Open
J	12/22/2021	43	80.2	19.4	0.0	0.4	1.0	*	--	49	100% Open
J	1/28/2021	44	No readings collected system was down due to LEL electrical Issue								25% Open
J	3/8/2021	44	69.8	19.4	0.2	10.6	---	---	---	Broken	25% Open
J	3/26/2021	44	75.3	20.5	0.0	4.2				Broken	25% Open
J	4/23/2021	44	65.4	19.8	0.3	14.5				Broken	25% Open
J	5/27/2021	44	67.6	18.9	0.6	12.9	----	----	----	Broken	25% Open
J	6/28/2021	44	63.1	17.9	0.9	18.1	---	---	---	Broken	25% Open
J	8/6/2021	44	68.3	17.6	0.5	13.6	-0.2	-	-	Broken	25% Open
J	8/28/2021	44	26.4	11.2	5.3	57.1	-0.6	--	--	Broken	25% Open
J	9/30/2021	44	63.3	14.0	4.2	18.5	0.0	-	-	Broken	25% Open
J	10/29/2021	44	41.1	19.4	0.0	39.5	0.4	-	-	Broken	25% Open
J	11/29/2021	44	32.8	7.3	12.4	47.5	-0.1	-		Broken	25% Open
J	12/22/2021	44	79.9	19.3	0.0	0.8	1.2	--	--	Broken	25% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
J	1/28/2021	45	No readings collected system was down due to LEL electrical Issue								5% Open
J	3/8/2021	45	50.2	19.2	0.0	30.6	---	---	---	Broken	5% Open
J	3/26/2021	45	54.4	19.9	0.0	25.7			0.0	Broken	5% Open
J	4/23/2021	45	38.8	17.4	0.0	43.8				Broken	5% Open
J	5/27/2021	45	49.5	17.8	0.0	32.7	----	----	----	Broken	5% Open
J	6/28/2021	45	49.0	17.4	0.0	33.6	---	---	---	Broken	5% Open
J	8/6/2021	45	60.4	18.2	0.0	21.4	0.0	-	-	Broken	5% Open
J	8/28/2021	45	52.2	17.8	0.2	29.8	-0.5	--	--	Broken	5% Open
J	9/30/2021	45	0.4	0.1	20.4	79.1	0.0	-	-	Broken	5% Open
J	10/29/2021	45	67.4	22.0	0.0	10.6	0.4	-	-	Broken	5% Open
J	11/29/2021	45	8.0	4.1	15.8	71.3	-0.1	-		Broken	5% Open
J	12/22/2021	45	72.1	24.7	0.0	2.7	1.1	--	--	Broken	5% Open
J	1/28/2021	46	No readings collected system was down due to LEL electrical Issue								10% Open
J	3/8/2021	46	70.1	24.9	0.1	4.9	-3.4	0.034	16.2	62	10% Open
J	3/26/2021	46	74.3	25.7	0.0	0.0	-1.2	0.002	3.9	56	10% Open
J	4/23/2021	46	71.6	24.0	0.0	4.4	-2.6	0.0	0.0	57	10% Open
J	5/27/2021	46	73.6	23.7	0.0	2.7	-2.6	0.057	21.0	77	10% Open
J	6/28/2021	46	75.3	24.3	0.0	0.5	-2.1	0.300	48.3	84	Opened From 10% to 15%
J	8/6/2021	46	69.5	23.3	1.4	5.8	-2.4	0.054	20.5	89	15% Open
J	8/28/2021	46	74.5	25.4	0.0	0.1	-2.7	0.003	4.8	77	Closed From 15% to 12.5%
J	9/30/2021	46	72.3	26.6	1.0	0.1	-2.1	0.001	2.8	71	Closed From 12.5% to 10%
J	10/29/2021	46	71.7	28.2	0.0	0.1	-2.1	0.014	10.4	58	10% Open
J	11/29/2021	46	66.0	28.2	5.6	0.2	-1.9	0.049	19.5	46	10% Open
J	12/22/2021	46	71.4	28.5	0.0	0.1	-1.2	*	--	50	10% Open
J	1/28/2021	47	No readings collected system was down due to LEL electrical Issue								10% Open
J	3/8/2021	47	61.9	21.4	0.0	16.7	-2.6	0.084	25.5	58	10% Open
J	3/26/2021	47	66.4	24.4	0.0	9.2	1.1	0.005	6.2	57	10% Open
J	4/23/2021	47	47.4	21.3	0.0	31.3	-2.0	0.0	0.0	56	Opened From 10% to 15%
J	5/27/2021	47	50.7	21.7	0.1	27.5	-2.1	0.074	24.0	74	15% Open
J	6/28/2021	47	59.6	24.0	0.0	16.4	-1.7	0.038	17.2	81	15% Open
J	8/6/2021	47	72.5	24.8	0.0	2.7	-1.8	0.045	18.7	85	15% Open
J	8/28/2021	47	61.7	26.2	0.2	11.9	-2.2	0.042	18.1	76	15% Open
J	9/30/2021	47	73.1	26.5	0.2	0.2	-1.7	0.001	2.8	66	15% Open
J	10/29/2021	47	66.9	28.4	0.0	4.7	-1.5	0.013	10.0	57	15% Open
J	11/29/2021	47	70.2	28.5	1.0	0.3	-1.3	0.047	19.1	46	15% Open
J	12/22/2021	47	70.4	27.4	0.2	2.0	-0.6	*	--	47	15% Open
L	1/28/2021	48	No readings collected system was down due to LEL electrical Issue								15% Open
L	3/8/2021	48	57.1	19.3	0.4	23.2	-2.0	0.042	18.1	69	15% Open
L	3/26/2021	48	78.5	29.1	0.0	1.4	-0.3	0.006	6.8	57	15% Open
L	4/23/2021	48	69.5	21.5	0.6	8.4	-1.6	-0.1	0.0	63	15% Open
L	5/27/2021	48	74.0	20.5	0.3	5.2	-1.6	0.066	22.6	83	15% Open
L	6/28/2021	48	70.3	21.0	0.5	8.2	-1.4	0.027	14.5	91	Opened From 15% to 18%
L	8/6/2021	48	53.6	16.0	4.2	26.2	-1.4	-0.004	0.0	94	18% Open
L	8/28/2021	48	29.5	10.3	9.5	50.7	-1.6	0.044	18.5	78	Closed From 18% to 17.5%
L	9/30/2021	48	38.4	13.0	7.8	40.8	-1.0	0.004	5.6	69	Closed From 17.5% to 15%
L	10/29/2021	48	35.3	13.9	5.7	4.5	-0.7	0.017	11.5	58	15% Open
L	11/29/2021	48	37.6	11.2	6.8	44.4	-1.1	0.051	19.9	50	15% Open
L	12/22/2021	48	64.8	17.6	2.4	15.2	-0.1	*	--	53	15% Open

* Quick connect fitting for differential preassure broke during survey.

Appendix C Well Balancing
2021 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position
L	1/28/2021	49	No readings collected system was down due to LEL electrical Issue								15% Open
L	3/8/2021	49	76.0	23.4	0.5	0.1	-1.0	0.046	18.9	57	15% Open
L	3/26/2021	49	64.5	26.2	0.0	9.3	0.0	0.006	6.8	51	15% Open
L	4/23/2021	49	66.4	27.1	0.0	6.5	-1.1	0.0	0.0	55	15% Open
L	5/27/2021	49	68.3	25.7	0.0	6.0	-1.0	0.061	21.8	71	15% Open
L	6/28/2021	49	72.3	27.4	0.0	0.3	-1.0	0.020	12.5	77	Opened From 15% to 18%
L	8/6/2021	49	75.1	24.7	0.0	0.2	-0.9	0.049	19.5	85	18% Open
L	8/28/2021	49	61.6	30.1	0.0	8.3	-1.4	0.036	16.7	80	Opened From 18% to 20%
L	9/30/2021	49	71.6	28.3	0.0	0.1	-0.9	0.006	6.8	69	20% Open
L	10/29/2021	49	68.9	30.8	0.0	0.3	-0.5	0.014	10.4	57	20% Open
L	11/29/2021	49	68.1	30.0	0.5	1.4	-0.9	0.013	10.0	52	20% Open
L	12/22/2021	49	67.5	27.0	0.0	5.5	0.1	*	--	55	Opened From 20% to 22%
L	1/28/2021	50	No readings collected system was down due to LEL electrical Issue								100% Open
L	3/8/2021	50	71.6	19.5	1.7	7.2	-1.4	0.030	15.3	60	100% Open
L	3/26/2021	50	76.6	23.2	0.0	0.2	0.0	0.003	4.8	54	100% Open
L	4/23/2021	50	78.3	20.9	0.7	0.1	-1.4	-0.1	0.0	56	100% Open
L	5/27/2021	50	79.9	19.4	0.6	0.1	-1.1	0.039	17.4	77	100% Open
L	6/28/2021	50	78.6	20.2	0.6	0.6	-1.3	0.028	14.7	83	100% Open
L	8/6/2021	50	65.8	16.6	3.4	14.2	-1.0	0.046	18.9	91	100% Open
L	8/28/2021	50	80.3	19.5	0.1	0.1	-1.0	0.038	17.2	76	100% Open
L	9/30/2021	50	68.3	16.5	3.5	11.7	-2.0	0.030	15.3	70	100% Open
L	10/29/2021	50	72.9	20.4	1.4	5.3	-0.4	0.001	2.8	54	100% Open
L	11/29/2021	50	69.8	19.5	2.8	7.9	-0.9	0.014	10.4	40	100% Open
L	12/22/2021	50	75.9	24.0	0.0	0.1	0.0	*	--	51	100% Open
L	1/28/2021	51	No readings collected system was down due to LEL electrical Issue								100% Open
L	3/8/2021	51	45.1	17.5	0.7	36.7	-1.3	0.062	21.9	62	100% Open
L	3/26/2021	51	81.5	18.4	0.0	0.1	0.1	0.034	16.2	64	100% Open
L	4/23/2021	51	10.6	23.2	0.1	6.1	-1.2	0.0	0.0	57	100% Open
L	5/27/2021	51	79.8	19.3	0.0	0.9	-1.0	0.027	14.5	72	100% Open
L	6/28/2021	51	72.4	20.1	0.0	7.5	-0.9	0.021	12.8	74	100% Open
L	8/6/2021	51	65.4	19.3	0.7	14.6	-0.7	0.022	13.1	80	100% Open
L	8/28/2021	51	31.2	16.2	4.3	48.3	-0.9	0.031	15.5	72	100% Open
L	9/30/2021	51	61.9	20.7	0.9	16.5	-0.6	0.002	3.9	66	100% Open
L	10/29/2021	51	39.6	16.3	1.2	42.9	-2.9	0.019	12.1	61	100% Open
L	11/29/2021	51	68.5	17.4	1.5	12.6	-0.8	0.025	13.9	50	100% Open
L	12/22/2021	51	76.3	7.7	0.0	6.0	0.2	*	--	68	100% Open
L	1/28/2021	52	No readings collected system was down due to LEL electrical Issue								100% Open
L	3/8/2021	52	74.1	25.8	0.0	0.1	0.2	0.037	16.9	64	100% Open
L	3/26/2021	52	74.5	25.4	0.0	0.1	1.3	0.008	7.9	66	100% Open
L	4/23/2021	52	64.4	23.7	3.2	8.7	-0.2	-0.1	0.0	58	100% Open
L	5/27/2021	52	65.8	21.6	2.9	9.7	-0.3	0.036	16.7	78	100% Open
L	6/28/2021	52	62.4	21.3	3.3	13.0	-0.2	0.033	16.0	79	100% Open
L	8/6/2021	52	64.0	21.7	3.2	11.1	-0.1	0.017	11.5	87	100% Open
L	8/28/2021	52	66.9	21.0	2.4	9.7	-0.4	0.037	16.9	75	100% Open
L	9/30/2021	52	61.6	21.0	3.7	13.7	-0.1	0.007	7.4	69	100% Open
L	10/29/2021	52	75.0	24.9	0.0	0.1	-1.3	0.002	3.9	55	100% Open
L	11/29/2021	52	60.5	21.2	3.0	15.3	-0.3	0.024	13.6	41	100% Open
L	12/22/2021	52	74.4	25.5	0.0	0.1	1.2	*	--	53	100% Open

* Quick connect fitting for differential preassure broke during survey.

D

Flare Data Sheets

Appendix D - Flare Data
2021 Flare Data
Clarkstown Landfill, West Nyack, NY

Date	Time	CH4	CO2	O2	Balance	Comments
1/28/2021		--	--	--	--	System down due to LEL electrical issues, DL-1 - 2.3gal; DL-5 - 29.6 gal
2/23/2021 and 3/8/2021	1300	49.1	15.4	5.9	29.6	System down due to lel electrical issues until 3/5/2021. Completed Feb. 2021 Guaging on 3/8. No pumping was completed due to no operations and low condensate collection in Jan 2021.
3/26/2021	745	53.1	18.2	5.3	23.4	DL-1 17 gal; DL-5 168 gal
4/23/2021	900	42.5	16.0	8.5	33.1	DL-1 6.3 gal; DL-5 46.4 gal; DL-10 0 gal
5/27/2021	900	50.6	17.0	5.4	27.3	DL-1 - 50mls; DL-5 - 11 gal; DL-10 - 28 gal
6/28/2021	700	40.5	14.3	7.4	37.9	DL-1 Dry; DL-5 7.4 gal; DL-10 Dry; DL - GE9 205.3 gal
8/6/2021	9:10	54.2	20.9	4.6	20.3	DL-1 Dry; DL-5 8.1 gal; DL-10 10.12 gal; DL - GE9 3.4 gal
8/28/2021	900	41	19.2	5.7	34.1	DL-1 0 gal; DL-5 4 gal; DL-GE 9 0 gal; DL-10 0 gal
9/30/2021	940	48.4	18.2	15.4	68.2	DL-1 0 gal; GE-09: 7.93 gal; DL-5 5.51 gal; DL-10 3.96 gal
10/29/2021	9:40	35.0	14.5	8.7	41.8	DL-1 0 gal; GE-09: 6.64 gal; DL-5 6.53 gal
11/29/2021	1000	29.1	9.6	11.3	49.9	DL-1: 4.7 gal; GE-09: 12.7 gal; DL-5: 5.5 gal; and DL-10: 6.3 gal
12/22/2021	915	36.0	12.8	10.2	41.1	DL-1: 0 gal; GE-09: 0 gal; DL-5: 0 gal; and DL-10: 0 gal

E

Flare Log Sheets

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
1/4/2021	800	off	5256	--	--	--	534.3	high level alarm keeps tripping. Trouble shoot bad LEL controler unit. Order unit
1/11/2021	900	off	5256	--	--	--	534.3	high level alarm keeps tripping. Trouble shoot bad LEL controler unit. Order unit waiting for its arrival
1/15/2021	830	off	5256	--	--	--	534.3	high level alarm keeps tripping. Trouble shoot bad LEL controler unit. Order unit waiting for its arrival
1/18/2021	930	off	5256	--	--	--	534.3	high level alarm keeps tripping. Trouble shoot bad LEL controler unit. Order unit waiting for its arrival
1/22/2021	930	off	5256	--	--	--	534.3	Replaced Controller unit, all sensor controller units are reading normal, calibrated units however they are still tripping. Will call manufacturer of sensor and controllers. Could be a calibration issue.
1/25/2021	830	off	5256	--	--	--	534.3	High level LEL alarm reset, pilot fail 2X, reset, started but tripped for High LEL, reset and is running, tripped for high LEL again, reset one last time, Tripped for high level LEL, will call manufacture
1/28/2021	1333	off	5256	7.9	1270	238	534.4	calbrated sensors restarted, Started ran for 10 minutes and then tripped for LEL will call manufacter of systme and sensors again
1/29/2021	745	off	5256	8.0	855	249	534.4	High level LEL alarm, Restarted system to see if yesterdays errors were residual calibration gas, system running, High LEL alrm tripped after 10 minutes of running, reset and try again

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
1/30/2021	800	off	5256	--	--	--	534.4	Still LEL issues, trouble shot the sensor, as directed by MSA, by removing the 4-20mA wire from the terminal at the back of the controller board took readings across the terminal 2 and terminal 3 which is the ground. I got no readings, reset the system to clear the Alarm but keep blowers turned off and still the same. I also read across the termional 2 and the wire 2 and got zero as well. I took reading of the atmnosphere in the butler building with the system off and with the system runnnig bioth times i was getting 0% CH4 and 20.9 to 21% O2. Will follow up with perenial and MSA on Monday
2/1/2021	800	off	5256	--	--	--	534.4	High LEL, reset pilot fail (2X). Reset started and then tripped for high LEL.
2/4/2021	830	off	5257	--	--	--	534.4	High LEL, trouble shoot system with both manufactureer of system and the LEL sensor issues steaming from wiring need to check connections for corrosion and tighness
2/6/2021	1030	off	5257	--	--	--	534.4	High LEL, trouble shoot system with both manufactureer of system and the LEL sensor issues steaming from wiring internal to the conduits need to find out if sensors can be removed from logic
2/24/2021	830	on	5258	30	0	0	534.4	High LEL Alarms but the system is showing on at 30 amps. Should be off will go to the landfill to see what is going on.

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
2/24/2021	945	on	5258	30	0	0	534.4	system was not running, although the screen and PLC showed it on. Reset system plc and power and LCD rest.
3/3/2021	1325	on	5258	8	1171	218	534.4	Pulled code after received downloader and rest system. Sent code for reprograming. Waiting for response
3/5/2021	745	off	5258	--	--	--	534.4	Tripped yesteday for high LEL.
3/5/2021	1530	off	5258	7.5	1307	216	534.4	replaced source code and reset system
3/8/2021	800	off	5263	--	--	--	534.4	flame fail, will let rest to complete O&M tomorrow
3/9/2021	830	off	5263	8.2	743	241	534.4	flame fail, restarted, Pilot Fail 2X, restarted
3/10/2021	800	off	5275	--	--	--	534.6	flame fail, restarted 5x, let rest
3/12/2021	845	off	5276	7.8	736	217	534.6	Flame fail, restart
3/15/2021	1045	off	5288	--	--	--	534.7	Flame Fail, restart (4X), let rest
3/17/2021	800	off	5288	8.1	717	237	534.7	Flame Fail, restart
3/19/2021	815	off	5302	7.9	458	232	534.9	Flame Fail, restart (2X)
3/22/2021	845	off	5316	8.5	758	241	535.1	Flame Fail, restart
3/24/2021	1430	off	5329	8	461	217	535.3	flame fail. restart
3/26/2021	750	off	5337	7.6	322	197	535.3	Flame Fail, Low flow, Restart for O&M
3/29/2021	730	off	5340	7.6	451	202	535.4	Flame Fail, Low flow, restart no flow.
3/30/2021	1100	--	--	--	--	--	--	can not connect remotely will head over to site to trouble shoot
3/30/2021	2115	off	5354	--	--	--	535.5	Flame Fail, Low flow rate Flame Fail
3/31/2021	815	off	5354	7.9	608	226	535.5	Flame Fail, resterted
4/2/2021	830	off	5368	--	--	--	535.7	Flame Fail, low flow rate, restarted 5x, will not start, let rest
4/5/2021	815	off	5368	7.6	1187	209	535.7	Flame Fail
4/7/2021	730	off	5380	7.9	796	217	535.8	Flame Fail, low flow rate, restarted 5x, will not start, let rest
4/9/2021	640	off	5392	--	--	--	536.0	Flame Fail, restart (5x), flame fail, let rest

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
4/12/2020	745	off	5392	7.8	1191	198	536.0	Flame Fail, restart
4/14/2021	830	off	5405	7.8	797	206	536.1	Flame Fail, Low Flow Rate Alarm, restarted (4X)
4/16/2021	745	off	5414	7.3	465	192	536.2	Flame Fail, Low Flow Rate Alarm, restarted
4/19/2021	730	off	5416	7.8	637	203	536.2	Low Flow rate shut down and alarm, restarted
4/23/2021	845	off	5426	8.6	524	234	536.3	Low Flow rate shut down and alarm, restarted
4/26/2021	830	off	5430	--	--	--	536.4	Low Flow rate alarm and shut down, Screen showing flow even though the system is off, will go to check on system
4/27/2021	740	off	5430	8	218	155	536.4	Low Flow rate alarm and shut down, open valve was the issue, closed open value and restarted the system
4/29/2021	1130	off	5442	7.7	382	184	536.5	Flame Fail, Low flow rate alarm, restarted
4/30/2021	800	off	5444	7.4	936	174	536.5	Low Flow Rate Shutdown and alarm, Restarted
5/3/2021	1030	off	5445	7.8	287	203	536.5	low flow rate alarm and sutdown, restarted
5/5/2021	1100	off	5454	7.8	415	197	536.6	Flame Fail, Low flare flow rate, Restarted
5/7/2021	815	off	5458	8.1	564	203	536.7	Low flow rate alram and shut down, restarted, Pilot fail, Flame fail (2x), restarted
5/10/2021	915	off	5470	7.4	549	184	536.8	Pilot Fail, Low Flow rate alram, restarted
5/12/2021	730	off	5471	8.0	290	205	536.8	Low flowl rate alarm and shut down, restarted, flame failed (2x), restarted
5/14/2021	600	off	5482	8.2	292	215	536.9	low flow rate alarm and shutdown. Restarted, flame fail, restrated
5/17/2021	700	off	5495	7.9	797	211	537.1	Low flow rate alarm and shut down. Restarted
5/20/2021	845	off	5508	--	--	--	537.2	Low flow rate alarm, Flame Fail, Restarted, flame fail (3x) will let rest

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
5/21/2021	830	off	5508	8.3	333	212	537.2	Flame fail, restarted
5/27/2021	845	off	5520	7.5	692	187	537.4	Flame Fail, Restarted
5/28/2021	800	off	5531	8.2	345	228	537.5	Flame fail low flow rate alarm, restarted (3x)
6/1/2021	900	off	5543	8.2	115	209	537.6	Flame Fail, restarted, Pilot fail, restarted,
6/3/2021	700	off	5554	8.1	256	191	537.7	Fame Fail, Low flow rate alarm, restarted
6/4/2021	915	off	5564	7.2	854	182	537.9	low flow rate alarm and shut down, restarted (2x)
6/7/2021	900	off	5564	7.7	192	175	537.9	Flame Fail, restrated
6/9/2021	700	off	5564	7.6	225	174	537.9	low flow rate alarm and shut down, restarted,
6/11/2021	800	off	5564	7.7	321	182	537.9	low flow rate alarm and shut down, restarted
6/14/2021	745	off	5566	7.5	373	178	537.9	low flow rate alarm and shut down, restarted
6/18/2021	815	off	5578	8.1	407	205	538.0	Low flow rate alarm and shut down, restarted
6/24/2021	830	off	5590	--	--	--	538.1	Flame Fail, Restarted 12 X, will not start let rest
6/28/2021	620	off	5591	7.8	281	205	538.1	Flame Fail, Restrated
6/30/2021	845	off	5604	7.7	475	204	538.3	Flame Fail, Restarted
7/2/2021	800	off	5629	8.4	322	212	538.6	Flame Fail, Restarted
7/5/2021	800	off	5641	7.5	615	210	538.7	Flame Fail, Restarted, pilot fail (3X) resatarted, flame fail (2x) restarted
7/7/2021	830	off	5652	7.7	305	190	538.9	Flame Fail, Low flow rate alarm, restarted
7/9/2021	745	off	5653	--	--	--	538.9	Low flow alarm and shutdown, restarted, Low flow rate and shut down (2X) will head to landfill to investigate
7/12/2021	649	off	5653	--	--	--	538.9	Low flow alarm and shutdown, restarted, pilot fail (3x), will head over to change over gas.
7/14/2021	800	off	5653	--	--	--	538.9	Pilot Fail, try to restart, Pilot Fail (3x), will change gas
8/6/2021	923	off	5653	6.9	1257	274	538.9	system repaired, cleared any blockages
8/9/2021	800	off	5664	7.4	1199	277	539.0	Flame Fail, restarted

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
8/11/2021	745	off	5676	7.7	409	275	536.2	Flame Fail, restarted
8/13/2021	800	off	5688	7.8	621	273	539.4	Flame Fail, restarted
8/16/2021	830	off	5700	7.7	433	287	539.6	Flame Fail, Restarted, flame fail, restarted
8/18/2021	930	off	5711	7.6	215	294	539.8	Flame Fail, Restarted
8/20/2021	745	off	5735	7.4	432	269	540.2	Flame Fail, restart, flame fail, restrated (3X)
8/23/2021	1000	off	5748	6	269	202	540.4	Flame Fail, restarted,
8/28/2021	900	off	5757	7.4	158	246	540.5	Flame fail, low flow alram, restarted, Flame fail, restrated
8/30/2021	1045	off	5761	6.6	831	223	540.5	low flow rate alarm and shutdown. Restarted
9/3/2021	745	off	5763	6.9	742	188	540.6	low flow rate alarm and shut down, restarted
9/7/2021	915	off	5775	--	--	--	540.8	low flow rate alarm and shutdown, restarted, low flow alarm and shut down, flow up to 1500 cfm post shutdown.Flow was falling, restarted, pilot fail, will let rest and check system out.
9/8/2021	900	off	5775	6.9	665	179	540.8	Pilot Fail, Flow back to 0 cfm, restarted,
9/10/2021	1000	off	5786	--	--	--	540.9	low flow rate alarm and shut down, restarted, low flow rate alrm and shut down (3x) will let rest
9/13/2021	930	off	5786	6.7	1176	236	540.9	Low flow rate alarm and shutdown, restarted
9/15/2021	915	off	5796	--	--	--	541.0	low flow rate alram and shut down, restarted, low flow rate alarm and shut down (3X), let rest.
9/17/2021	800	off	5796	--	--	--	541.0	low flare flow rate alarm and shut down, restarted, Low flare floe rate alarm and shut down (3X) will head to the landfill to trouble shoot.
9/24/2021	745	off	5796	6.3	326	274	541.0	low flare flow rate alarm and shut down, restarted,
9/30/2021	1445	on	5800	6.6	1034	207	541.1	on

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
10/4/2021	745	off	5810	7.2	587	220	541.2	Flame Fail, restarted
10/6/2021	830	off	5822	--	--	--	541.4	flame fail, restarted, flame fail (4x), let rest
10/8/2021	750	off	5822	7.7	209	243	541.4	flame fail, restarted,
10/11/2021	830	off	5835	7.3	428	248	541.6	flame fail, restarted
10/13/2021	830	off	5846	7.2	805	257	541.7	flame fail, restarted
10/15/2021	1000	off	5856	7.5	338	249	541.9	flame fail. Restarted
10/18/2021	800	off	5865	7.6	518	243	542.0	flame fail, restarted
10/20/2021	745	off	5877	7.4	464	262	542.2	Flame Fail, Restarted, flame fail (3x), restarted
10/22/2021	730	off	5890	7.2	380	251	542.4	Flame Fail, restarted
10/25/2021	915	off	5902	--	--	--	542.6	Flame Fail, let rest for Matt to perform O&M on Wed.
10/26/2021	900	off	5902	6.2	384	180	542.6	Flame fail, due to inclemant weather O&M pushed, so started today will conduct O&M on Friday
11/1/2021	800	off	5913	--	--	--	542.7	Flame Fail, restarted flame fail 3x, let rest will try to start on Wednesday
11/3/2021	845	off	5913	7.2	235	240	542.7	Flame Fail, restarted, flame fail 2x, restarted
11/8/2021	1045	off	5923	7.3	423	237	542.9	Flame Fail, restarted
11/10/2021	845	--	--	--	--	--	--	connection issues, will try later
11/11/2021	1130	off	5931	--	--	--	543.0	Flame Fail, restarted, flame fail, restarted 3x, no start will let rest
11/12/2021	730	off	5931	7.1	993	242	543.0	Flame Fail, restarted, pilot f ail, restarted 3x, no start will let rest
11/15/2021	930	off	5943	7.0	1014	237	543.2	Flame Fail, restarted,
11/17/2021	1000	off	5951	--	--	--	543.3	Flame Fail, Restarted flame fail 3x,will let system rest start Friday
11/29/2021	830	on	5952	7.2	878	240	543.3	Flame Fail, restarted,
12/1/2021	830	off	5963	--	--	--	543.5	Flame Fail, restarted, flame fail, restart (4x), will let the system rest

Appendix E - Working Flare Log Sheet
2021 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

		301/302			Panel Display			
Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10^6 CF)	Comments
12/3/2021	945	off	5963	--	--	--	543.5	Flame Fail, restarted, flame fail, restarted (4x) will let system rest
12/6/2021	800	off	5963	7.3	996	250	543.5	Flame fail, restarted
12/8/2021	800	off	5974	--	--	--	543.6	flame fail, restarted, flame fail (4x), let rest
12/13/2021	1000	off	5974	--	--	--	543.6	Flame fail, restarted, flame fail (4x), let rest
12/15/2021	800	off	5974	--	--	--	543.6	Flame Fail, Reaterted , flaime fial (4X), let rest
12/17/2021	730	off	5974	--	--	--	543.6	Flame Fail, restarted, ran for about 3 minnutes and the shut down because of flame fail, check all valves nothing was open, looked at other parts of the ssytem and they were operating normally. Looks like it is just out of gas. Let rest
12/20/2021	845	off	5974	--	--	--	543.7	Flame Fail, restarted, flame fail, restarted (4x) will let system rest
12/22/2021	745	off	5975	7.5	892	251	543.7	Pilot fail, restarted, pilot fail, restarted
12/29/2021	830	off	5986	7.6	795	250	543.8	Pilot fail, restarted, pilot fail, restarted (2x)

F

FCS-1 Forms

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 1/28/2021 Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 2/23/2021 Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 3/26/2021 Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 4/23/2021 Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	**DA-2**	**DA-3**	**DA-4**	**DA-5**	**DA-6**	**DA-7**	**DA-8**
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	NS	NS	NS	NS	NS	NS	NS	NS
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 5/27/2021 Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 6/28/2021 Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 8/06/2021(for July 2021) Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 8/28/2021 Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 9/30/2021 Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 10/29/2021 Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	**DA-2**	**DA-3**	**DA-4**	**DA-5**	**DA-6**	**DA-7**	**DA-8**
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 11/29/2021 Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:
1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
2 Use "NS" (Not Satisfactory) where problems are noted.
3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
* Refer to Figure 2-4 for delineations of inspection areas.

Date: 12/22/2021 Inspector's Initials: BKM

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AR-1 Forms

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 1/28/2021 Inspector's Initials: BKM

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 2/23/2021 Inspector's Initials: MTP

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 3/26/2021 Inspector's Initials: BKM

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 4/23/2021 Inspector's Initials: BKM

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 5/27/2021 Inspector's Initials: BKM

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 6/28/2021 Inspector's Initials: BKM

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 8/06/2021 (for July 2021) Inspector's Initials: MTP

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 8/28/2021 Inspector's Initials: BKM

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 9/30/20201 Inspector's Initials: MTP

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 10/29/2021 Inspector's Initials: MTP

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 11/29/2021 Inspector's Initials: MTP

FORM AR-1

INSPECTION CHECKLIST FORM

ACCESS ROADS

CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- *Potholes*	X
- *Condition of asphalt/gravel*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
- *Ruts*	X
Perimeter Access Road: Remainder	
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Guard rails*	X
- *Uneven settlement*	X
- *Ponding of water*	X
Access Road Across Top of Landfill	X
- *Potholes*	X
- *Evidence of debris and/or obstructions*	X
- *Uneven settlement*	X
- *Ponding of water*	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 12/22/2021 Inspector's Initials: BKM