Periodic Review Report

Colesville Landfill

Site No. 704010

Prepared for

Broome County Division of Solid Waste Management

60 Hawley Street, Binghamton, New York 13901

Revision 0

January 2022

Colesville Landfill
Broome County

Periodic Review Report

January 2022

Prepared for

Broome County Division of Solid Waste Management

60 Hawley Street

Binghamton, New York 13901

Prepared by

Barton & Loguidice, D.P.C.
443 Electronics Parkway
Liverpool, New York 13088

TABLE OF CONTENTS

Section **Page**

Attachments

I. EXECUTIVE SUMMARY

A. History

The Colesville Landfill (hereinafter referred to as the "Site") is listed as Site No. 704010 and was remediated in accordance with State Assistance Contract (SAC) # C093001, and Order on Consent Index #T010687, which was executed on April 13, 1987. The Site is about 35 acres. The primary pollutants are volatile organic compounds (VOCs) that are limited to the upper aquifer, which is underlain by a confining unit comprised of glaciolacustrine deposits. The landfill parcel has an environmental easement that prohibits the development or use of the property in any way that could interfere with the remedy and it prohibits the installation of drinking water wells. Also included under this institutional control are other adjacent County owned parcels with Tax ID#s 118.02-1-5, 118.04-2-24 and 118.04-2-25. In February 2015, Thomas Scott signed an Environmental Easement that is held by the County for the property directly adjacent and downgradient of the landfill, tax parcel ID #118.04-2-23.

Remedial activities to date include placing a geomembrane cover system on the landfill (1995), installing subsurface passive treatment systems for springs SP-5 (2003) and SP-4 (2004), and installation and startup in September 2002 of an in-situ reactive zone (IRZ) consisting of 17 molasses injection wells with an automated system and 3 downgradient groundwater extraction wells with an air stripper. These remedies were approved for implementation by the USEPA through issuance of Explanation of Significant Differences (ESD) issued in 2000, 2004 and 2010. In October 2012, the injection and pumping well systems were shut down as part of the IRZ Discontinuation Pilot Test. In October 2016, an ESD was issued that required soil gas sampling, if structures are built on the Site or if nearby vacant houses are occupied, to determine if a vapor intrusion pathway could potentially be of concern.

Passive treatment systems currently operating are the carbon filtration of the seep at SP-5 and the subsurface stone trenches upgradient of SP-4.

A Remedial System Optimization Report was submitted to the NYSDEC in March 2017 which concluded that site conditions were protective of human health and the environment without remediation of groundwater via injections and recovery wells (Arcadis 2017). Based on the findings in this report, the NYSDEC issued a change in classification for the Colesville Landfill in the Registry of Inactive Hazardous Waste Disposal Sites. In a letter from the NYSDEC dated September 27, 2017, Broome County was notified of a classification change from 2 to 4 based on the rationale that remedial actions have successfully achieved remedial action objectives and residual contamination is being managed under a Site Management Plan (SMP) that includes environmental monitoring.

From October 2012 through September 2019, the groundwater was monitored while the molasses injections and the groundwater extraction and treatment system were dormant to evaluate the behavior of site contaminants in natural conditions (In-Situ Reactive Zone Discontinuation Pilot Study). Based on contaminant of concern trends observed during the pilot study (i.e., increasing levels of contaminants in several monitoring wells), it was decided that substrate injections (molasses) would resume in September 2019 and continue on an annual basis.

B. Effectiveness

Over a decade of active site remediation significantly reduced the level of contamination. The 5-year review report issued by the EPA in March of 2020 found that "The OU1 [Operable Unit 1] remedy protects human health and the environment in the short term because unacceptable exposure to contaminated media has been interrupted by the implementation of the remedial actions and has been completed and has addressed all human health and ecological risks and all ICs are in place, preventing unacceptable use of soil and groundwater."

The last 5th quarter sampling event occurred in November 2020. The results of this sampling were reported in the 2020 Annual Monitoring Report (Arcadis, 2020). Total VOC concentrations in the mid-plume area (GMMW wells) range from approximately 43 micrograms per liter (µg/L) to 210 µg/L and decline significantly in the downgradient direction with total VOC concentrations ranging from non-detect to 73 µg/L. Overall, the degradation trend figures showed that at key locations within the groundwater plume there has been a significant decrease in VOC mass since initiation of IRZ injections.

Remedial progress during the last six years resulting from biodegradation of VOCs is evident, as shown by the change in TVOC concentrations in key wells from September 2014 to November 2020 in the Table below.

Total VOCs (µg/L)			
Well	Location	9/8/2	11/5/2
GMMW-2	Mid plume	100	45
GMMW-5	Mid plume	67	94
GMMW-6	Mid plume	320	210
GMMW-7	Landfill perimeter	130	150
PW-7	Landfill perimeter	630	30
W-18	Plume boundary	57	12
GMPW-4	Downgradient former recovery	150	59

To achieve Site closure the groundwater must be restored to drinking water standards. Based on years of remediation at this and multiple other documented Superfund sites, it could take decades to reach this goal. Very often once a site has reached a plateau of contamination in the 50-100 parts per billion range, active remediation becomes less effective. Natural biodegradation of contaminants is occurring at the Site and such processes are expected to continue to degrade the plume and restore groundwater to applicable standards in a similar time frame as, and at less cost than, active remediation.

C. Compliance

There are no areas of non-compliance. The SMP is being fully implemented.

D. Recommendations

The SMP was recently updated (final revision dated June 2020). No further revisions to the SMP are recommended at this time.

II SITE OVERVIEW

Attached is a Site Plan figure. The Site location, boundaries, and plume description are documented in the SMP. The plume has not changed significantly in size or location during this reporting period; however, the concentrations at monitoring wells have generally declined or remained stable.

The main features of the Site's current remediation include:

- A geomembrane capping system
- Fenced perimeter
- Institutional controls to restrict site development and the use of groundwater
- Passive mitigation systems at the SP-4 and SP-5 springs

Active remediation systems previously implemented at the Site include:

- A Pump and Treat system for 3 downgradient wells, and
- An Automated Reagent Injection system that includes seventeen carbon source (molasses or mol- whey solution) injection wells.

Remediation Systems currently implemented at the site includes:

- Manual addition of molasses to seventeen injection wells.

III. EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS

Remedy performance has been well documented in the following reports, which include tables, graphs and charts:

- 2019 Annual Monitoring Report (February 2020),
- 2020 Annual Monitoring Report (December 2020), and
- 2021 Annual Monitoring Report (January 2021)

In 2019, all samples were collected in accordance with the SMP, and summarized in in the 2019 Annual Report dated February 18, 2020. In summary, the results of the 2019 sampling showed:

- The concentration of VOCs in groundwater downgradient of the landfill boundary generally remained stable during 2019 when compared with the previous groundwater monitoring event; however, VOC concentrations at the landfill perimeter (i.e., PW-7 and GMMW-7) increased in comparison with 2018 results.

- VOC and metals concentrations in surface water continue to be low or non-detect and consistent with historical data, despite the presence of VOCs and metals in the spring water.
- Sediment quality results during June and September of 2019 were generally consistent with sediment sample results from 2018.

In 2020, all samples were collected in accordance with the SMP with the exceptions detailed below in Section V.B. The results were summarized in in the 2020 Annual Report dated December 16, 2020. In summary, the results of the 2020 sampling showed:

- The concentration of VOCs in groundwater downgradient of the landfill boundary generally remained stable during 2020 when compared with the previous groundwater monitoring event; however, VOC concentrations at the landfill perimeter (i.e., PW-7 and GMMW-7) decreased in comparison with 2019 results.
- VOC and metals concentrations in surface water continued to be low or non-detect and consistent with historical data, despite the presence of VOCs and metals in the spring water.
- Sediment quality results during May and November of 2020 were generally consistent with sediment sample results from 2019.

In 2021, only springs, surface water, and sediment were sampled. The results of this sampling will be reported in January 2021 under separate cover. In summary, the results of the 2021 sampling showed:

- VOC and metals concentrations in surface water continued to be low or non-detect and consistent with historical data, despite the presence of VOCs and metals in the spring water.
- Sediment quality results during June and October of 2021 were generally consistent with sediment sample results from 2020 with the exception of slightly higher iron (roughly 50,000 mg/kg compared to roughly 31,000 mg/kg in 2020) and arsenic (roughly 50 mg/kg compared to roughly 14 mg/kg in 2020)

IV. IC/EC PLAN COMPLIANCE

A. IC/EC Requirements and Compliance

The landfill cap and perimeter fence were inspected on October 3, 2019, and October 7, 2020 by Laurie Haskell, Broome County Solid Waste Management Specialist and other county staff, and on October 18, 2021 by Emily Giordano and Debra Smith, also of Broome County Solid Waste. The cap system was found to be well maintained and functioning as intended. The check list forms and pictures are attached.

Also during these inspections, the landfill and adjacent properties with environmental easements were observed for any prohibited activity such as residential or groundwater use. There was no such activity.

B. IC/EC Certification

Overall, the institutional and engineering controls are working as intended and in compliance with the SMP. The certification forms are attached.

V. MONITORING PLAN COMPLIANCE

A. Components of the Monitoring Plan

Below is Table 7 from the SMP, revised in June 2020, which lists the monitoring requirements for the Site.

Monitoring/Inspection Schedule

Groundwater

Sample ID	VOCs	Dissolved & total iron	Water Level	Dissolved gases	NO3, SO4	TOC	Field Parameters	Frequency
GMMW-2	L	L	F	L	L	L	F	5th quarter
GMMW-5	L	L	F	L	L	L	F	5th quarter
GMMW-6	L	L	F	L	L	L	F	5th quarter
GMMW-7	L	L	F	L	L	L	F	5th quarter
PW-4	L	L	F	L	L	L	F	5th quarter
PW-3	L	L	F	L	L	L	F	5th quarter
PW-5	L		F				F	5th quarter
W-7	L		F				F	5th quarter
W-16S	L	L	F	L	L	L	F	5th quarter
W-18	L	L	F	L	L	L	F	5th quarter
PW-7	L	L	F	L	L	L	F	5th quarter
W-17S	L		F				F	5th quarter
W-20S	L		F				F	5th quarter
GMPW-4	L	L	F	L	L	L	F	5th quarter

Spring/Surface Water

Sample ID	VOCs	Metals					Field Parameters	Frequency
SP-2	L	L					F, (w/o ORP)	semi-annual
SP-3	L	L					F, (w/o ORP)	semi-annual
SP-4	L	L					F, (w/o ORP)	semi-annual
SP-5 influent	L	L					F, (w/o ORP)	semi-annual
SP-5 effluent	L	L					F, (w/o ORP)	semi-annual
F-6	L	L					F, (+ DO)	semi-annual
SW-2	L	L					F, (+ DO)	semi-annual
SW-3	L	L					F, (+ DO)	semi-annual
SW-4	L	L					F, (+ DO)	semi-annual

All springs visual/photo monitoring

Sediments

Sample ID	*Metals*			% solids			
SP-3-Sed	L			L			semi-annual

Cover System Monitoring							annually

Notes:

L = Laboratory Analysis, F = Field Analysis

NO_3 = Nitrate

SO_4 = Sulfate

TOC = Total Organic Carbon

Field Parameters = ORP, Temperature, pH, Conductivity, Turbidity

ORP = Oxidation Reduction Potential

Residential testing on a 5th quarter basis for:

- Marcy
- Gaines
- Lee Spring
- Scott

Dissolved gases = Methane/Ethene/Ethane, Method RSK 175

	MRL (ug/L)	MDL (ug/L)
Methane	1	0.5
Ethane	1	0.162
Ethene	1	0.138

B. Summary of Monitoring Completed

During the reporting period, Spring/surface water/sediments were collected semiannually for each of the three years, and groundwater, on an every-fifth-quarter schedule, was sampled in 2019 and 2020. All sample collection was done in accordance with the SMP with the following exceptions:

- In 2020, only SP-3 was sampled in the second semiannual sampling because there was no spring flow at SP-2 and SP-4 due to very dry conditions
- In 2020, the SP-2 location was resampled during the first semiannual sampling due to suspected anomalous VOC concentrations observed in the original sample collected. Specifically, The concentration of VOCs detected at SP-2 in the initial May 2020 was not consistent with historic observations in this area. Therefore, the SP-2 location was resampled in June 2020 and the results indicated non-detect concentrations except for a trace level of trichloroethene (0.35 µg/L). The June 2020 data are consistent with historical VOC results at SP-2.
- In 2021, the SP-2 location was dry in the second semi-annual sampling event.

In addition to the routine monitoring, a one-time sampling of residential wells at six residences near the site was performed on Septmber 17, 2019 for the analysis of 1,4-dioxane and the 21 per- and poly- fluorinated alkyl substances (PFAS) compounds. No 1,4-dioxane was detected, and while one PFAS (perfluorinated octanoic acid – PFOA) was detected in 5 samples (all at or less than 1 ng/L), PFOA was also detected in the trip blank at a higher concentration than all but one sample, suggesting the low levels of PFOA are not site-related.

The data from sampling events are regularly uploaded to the Department's EQuIS™ database.

C. Comparisons with Remedial Objectives

Among the Remedial Action Objectives (RAOs) summarized in the 1991 Record of Decision (ROD) and the 2020 SMP, the only monitoring activity directly measuring RAO compliance is the groundwater monitoring. During the two sampling events performed during this period, most wells (exceptions are PW-05, W-07, W-17S, and W-20S) still have residual VOC contamination above Class GA standards.

Based on data collected from PW-7 during the 201 1 to 2014 timeframe, elevated VOC concentrations were noted by EPA in their Five-Year Review Report issued in May 2015. At their recommendation, further testing of that well was conducted. Although total VOC concentrations in PW-7 increased in 2019 to 214 µg/L, there has been a significant decline in TVOC concentrations observed since 2014; the last observed value was 30 µg/L in 2018 versus 440-630 µg/L in 2014.

Further downgradient from the landfill perimeter in the mid-plume area (i.e., GMMW-5, GMMW-6, and GMMW-2), concentrations of chlorinated ethenes have significantly decreased, with GMMW-2 showing its lowest total VOCs in 2019 (70 µg/) and then decreasing further in 2020 45 µg/L). GMMW-5 and GMMW-6 remained roughly consistent with the measurements

reported in the previous PRR. 1,1-Dichloroethene and chloroethane were the primary VOCs present in groundwater.

In downgradient monitoring wells near East Windsor Road (i.e., PW-4, PW-3 and W-16S), TVOC concentrations range from below the limits of detection to 23 µg/L. In GMPW-4, which is a former recovery well, TVOC concentrations have continued to decrease over time to 59 µg/L.

Concentrations of TVOCs south of East Windsor Road (i.e., W-18 and W-20S) were below the limits of detection in W-20S and have generally been steadily decreasing in W-18 to a value of 12 µg/L in 2020. Note: W-18 is located on a property with institutional controls.

D. Monitoring Deficiencies

There were no monitoring deficiencies during this reporting period.

E. Conclusions and Recommendations

The monitoring program is well designed to provide the data necessary for overall site evaluation. The current monitoring results and evaluations demonstrate the overall effectiveness of the Site remediation processes.

Recommendations include conducting plume monitoring for residual VOCs via groundwater/surface water/spring water monitoring according to the SMP. Also, the County will continue to inspect springs and monitor and remove surficial spring sediment.

VI. O&M PLAN COMPLIANCE

A. Components of O&M Plan

The Operation and Maintenance portion of the SMP, contained in Section 5, primarily covers O&M aspect for the manual operation of the Reagent Injection System and the SP-5 granular activated carbon treatment system. Additionally, the following maintenance items are required:

- During semi-annual maintenance events the springs along the North Stream will be checked for iron oxide staining on the ground and in the shore line sediments. If present, the top layer of soil/sediment will be collected and taken to the Broome County Landfill for disposal.
- Landfill cap and fencing maintenance

B. Summary of O&M Completed During Reporting Period

O&M Activities performed during each of the three years are included in the attached O&M Compliance forms.

C. Evaluation of Remedial Systems

- Continuing reductions in contaminant concentrations in groundwater indicate the reagent injection system is contributing to anaerobic reduction of VOCs in groundwater
- Only limited reductions in VOC concentrations are observed in the SP-5 activated carbon treatment system. Although both influent (12-28 µg/L) and effluent (12-15 µg/L) total VOC concentrations are very low, the totals are primarily based on results with estimated values below quantitation limit (J qualifiers). This can underestimate contaminant removal if influent concentrations were reported as non detect, but effluent concentrations were J-qualified results. Looking at the individual compounds, and comparing among compounds that were detected (without or without a J qualifier in the influent shows that all compounds were reduced in concentration except chlorobenzene in October (1.8 J µg/L in the influent and 2.5 J µg/L in the effluent) and trichloroethene (0.45 J µg/L in the influent and 0.82 J µg/L in the effluent). However, these concentrations are too low make a judgment on the effectiveness of the removal.

D. O&M Deficiencies

There were no deficiencies in O&M during this period.

E. Conclusions and Recommendations for Improvements

O&M activities were successfully completed on the Site and in compliance with the SMP. Carbon replacement should be considered for the SP-5 treatment system.

VII. OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

A. Compliance with SMP

a. IC/EC: Institutional and engineering controls are in place and functioning as intended and in full compliance with the SMP
b. Monitoring: Monitoring is being performed in general compliance with the SMP, meeting the requirements of the Plan.
c. O&M: Operational and maintenance activities were performed in compliance with the SMP.
d. Recordkeeping is in compliance with the SMP.

B. Performance and Effectiveness of the Remedy

The landfill cap is preventing infiltration of water into the waste, thereby limiting the infiltration of contaminants to the ground water. The fence is intact and the property is secured. Institutional controls prohibit the use of groundwater for human use or consumption. Some seeps continue to contain low levels of VOCs. SP-4 and SP-3 exhibited a range of variability of total VOCs and fluctuated from 16 to 51 µg/L. Iron remains at high levels in these

two springs and will be closely examined in future monitoring. This is inferred to be indicative of continued reducing conditions in the plume. Ongoing sampling of the North Stream shows that the presence of VOCs in the stream water is essentially nondetectable (i.e., generally below reportable limits).

Remediation of contaminants in groundwater via natural biodegradation is occurring and is being evaluated on an ongoing basis. There have been no observed negative impacts from the discontinuation of the active treatment systems.

C. Future PRR Submittals

Future PRR reports will be submitted on a once every three years' basis unless otherwise directed by the NYSDEC.

Attachment A

O&M Compliance Forms

COLESVILLE LANDFILL
BROOME COUNTY, NEW YORK
SITE NO. 704010

O&M PLAN COMPLIANCE FORM

Site Addresses: Colesville Landfill, 1538 East Windsor Road, Harpursville, New York 13787

Date and Time of Inspection: _____

Inspector (Name, Title, and Affiliation): Laurie Haskell

Weather Conditions: _____

Describe O&M Plan Compliance:

A. Components of O&M Plan

The Operation and Maintenance portion of the SMP, contained in Section 4, primarily covers O&M aspect for the Automated Reagent Injection System and the Groundwater Pump and Treat System should either of those be placed in operation. One molasses injection was completed in 2019 and O&M completed in association with that system is included below.

Other maintenance items included in Section 4 are:

- Operational performance monitoring of the SP-5 spring remedy is conducted on a semiannual basis and includes routine visual inspection, recording system field parameters, and maintenance of system equipment (as necessary, such as clearing deposited material from the discharge pipe, carbon media change-out).
- During semi-annual maintenance events the springs along the North Stream will be checked for iron oxide staining on the ground and in the streambank sediments. If present, the top layer of soil/sediment will be collected and taken to the Broome County Landfill for disposal.
- Landfill cap and fencing maintenance

B. Summary of O&M Completed During 2019 Period

- On 7/31/2020 and 8/1/2020 eleven injection wells were inspected and redeveloped, if possible. Injection wells redeveloped: PW-6, IW-1, IW-2, IW-3, IW-8, and IW-9. GMMW-1 and IW-4 thru IW-7 were sealed with pit-less adapters and couldn't be opened.
- Following injections through the hose apparatus originating in the treatment building, the hoses were rinsed to remove the molasses solution.
- The landfill cap was mowed in May and August.
- Trees were removed from the perimeter fence of the landfill as needed and the fence was straightened.
- On October 24, 2019 all the landfill gas vents were checked. A total of eleven vents were repaired at that time. A report documenting the repairs was sent to EPA and DEC.
- Some surface sediment was removed in the area of SP-3 in May.
- Deposited material was cleaned out of the SP-5 drainage pipe during monitoring.

C. Evaluation of Remedial Systems

Maintenance required for next year:
- Mow landfill cap
- Snake and clean SP-5 drainage pipe and remove deposited material at the outfall
- Remove surface sediment by SP-3

D. O&M Deficiencies

There were no deficiencies in O&M during this period.

E. Conclusions and Recommendations for Improvements

O&M activities were successfully completed on the Site and in compliance with the SMP. There is no known need for improvements at this time.

COLESVILLE LANDFILL
BROOME COUNTY, NEW YORK
SITE NO. 704010

O&M PLAN COMPLIANCE FORM

Site Addresses: Colesville Landfill, 1538 East Windsor Road, Harpursville, New York 13787

Compliance Period: January 1, 2020 through December 31, 2020

Compliance Evaluator (Name, Title, and Affiliation): Laurie Haskell, Broome County Solid Waste Management Specialist

---

Describe O&M Plan Compliance:

A. Components of O&M Plan

The Operation and Maintenance Plan contained in Section 5 of the 2020 SMP includes an annual molasses injection, maintenance of the SP-5 remedy, landfill cap maintenance, and removal of surficial SP-3 sediment. Descriptions of these tasks are listed below.

1. Eleven pre-existing injections wells are gravity fed a molasses solution annually. Following the injection, the equipment and tank is rinsed and stored.
2. Operational performance monitoring of the SP-5 spring remedy is conducted on a semiannual basis and includes routine visual inspection, recording system field parameters, and maintenance of system equipment as necessary, such as clearing deposited material from the discharge pipe and changing the carbon media.
3. Landfill cap maintenance includes mowing annually, and as needed: settlement repair, ditch cleaning, gas vent repair and fencing maintenance.
4. The springs along the North Stream will be checked annually, before vegetation has covered the stream bank, for iron oxide staining on the ground and in the sediments. If staining is present, the top layer of soil/sediment will be collected and taken to the Broome County Landfill for disposal.

B. Summary of O&M Completed During 2020 Period

- On 8/25/2020-8/26/2020, molasses was injected into eleven wells by personnel from Arcadis and Broome County. Following injections, the hose apparatus originating in the treatment building was rinsed, as well as the mixing tank, to remove residual molasses solution.
- Deposited material was cleaned out of the SP-5 drainage pipe during monitoring. On 8/12, 2020 some brush was removed by the outlet that was blocking flow and causing back-up.
- The landfill cap was mowed on August 12, 2020.
- Some surface sediment was removed in the area of SP-3 the week of May 18 2020.

C. Evaluation of Remedial Systems

Maintenance required for next year:

- Mow landfill cap
- Fix settlement recently noted along the southwest side by improving drainage
- Snake and clean SP-5 drainage pipe and remove deposited material at the outfall
- Remove surface sediment by SP-3

D. O&M Deficiencies

There were no deficiencies in O&M during this period.

E. Conclusions and Recommendations for Improvements

O&M activities were successfully completed on the Site and in compliance with the SMP. There is no need for improvements at this time.

Laura Haskell
(signed)

12/14/2020
(date)

COLESVILLE LANDFILL
BROOME COUNTY, NEW YORK
SITE NO. 704010

O&M PLAN COMPLIANCE FORM

Site Addresses: Colesville Landfill, 1538 East Windsor Road, Harpursville, New York 13787

Compliance Period: January 1, 2021 through December 31, 2021

Compliance Evaluator (Name, Title, and Affiliation): Emily Giordano, Broome County Solid Waste Management Specialist

---

Describe O&M Plan Compliance:

A. Components of O&M Plan

The Operation and Maintenance Plan contained in Section 5 of the Site Management Plan includes an annual molasses injection, maintenance of the SP-5 remedy, landfill cap maintenance, and removal of surficial SP-3 sediment. Descriptions of these tasks are listed below.

1. Eleven pre-existing injections wells are gravity fed a molasses solution annually. Following the injection, the equipment and tank is rinsed and stored.
2. Operational performance monitoring of the SP-5 spring remedy is conducted on a semiannual basis and includes routine visual inspection, recording system field parameters, and maintenance of system equipment as necessary, such as clearing deposited material from the discharge pipe and changing the carbon media.
3. Landfill cap maintenance includes mowing annually, and as needed: settlement repair, ditch cleaning, gas vent repair and fencing maintenance.
4. The springs along the North Stream will be checked annually, before vegetation has covered the stream bank, for iron oxide staining on the ground and in the sediments. If staining is present, the top layer of soil/sediment will be collected and taken to the Broome County Landfill for disposal.

B. Summary of O&M Completed During 2021 Period

- On 8/10/2020-8/12/2020, molasses was injected into eleven wells by personnel from Barton & Loguidice and Broome County. Following injections, all equipment was rinsed, as well as the mixing tank, to remove residual molasses solution.
- SP-5 drainage pipe was cleaned out and snaked on 11/18/2021. Some build-up at outlet was removed to help with flow and prevent back-up.
- The landfill cap was mowed in late July 2021.
- Some surface sediment was removed in the area of SP-3 the week of June 7, 2021.

- 2 beavers were removed from pond on east of property at the end of November. Dam was removed and water level dropped. A week later the dam was built again. Traps have been reset and efforts are continuing.

C. Evaluation of Remedial Systems

Maintenance required for next year:

- Mow landfill cap
- Fix settlement locations noted along the western and southwest side by improving drainage
- Snake and clean SP-5 drainage pipe and remove deposited material at the outfall
- Remove surface sediment by SP-3
- Evaluate beaver situation at pond on outskirts of landfill.

D. O&M Deficiencies

There were no deficiencies in O&M during this period.

E. Conclusions and Recommendations for Improvements

O&M activities were successfully completed on the Site and in compliance with the SMP. There is no need for improvements at this time.

Emily E. Hirsh _____ 10/25/2021

(signed) (date)

Attachment B

IC/EC Certification Form

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 704010

Site Name Colesville Landfill
1538 East Windsor Road
Site Address: ~~East River Road~~ Zip Code: 13787
City/Town: Colesville
County: Broome
Site Acreage: 35.000

Reporting Period: December 31, 2018 to December 31, 2021

	YES	NO
1. Is the information above correct?	☐	X
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	X	☐
7. Are all ICs in place and functioning as designed?	X	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 704010 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
01000048S100X0000000	BROOME COUNTY DPW	Soil Management Plan Ground Water Use Restriction Landuse Restriction Monitoring Plan O&M Plan IC/EC Plan Site Management Plan

ICs for the site include a groundwater use and land use restriction and adherence to a site management plan

Box 4

Description of Engineering Controls

Parcel	Engineering Control
01000048S100X0000000	Cover System Fencing/Access Control

ECs for the site include Cap/Cover system and Fence/ access control

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. 704010

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Debra Smith (print name) at 60 Hawley Street, Binghamton, NY 13901 (print business address),

am certifying as Director of Solid Waste Management (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Debra Smith — 1/21/2022

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification — Date

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Scott D. Nostrand (print name) at 443 Electronics Parkway, Liverpool, NY 13088 (print business address),

am certifying as a Professional Engineer for the _____
(Owner or Remedial Party)

Scott D. N

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	January 20, 2022 Date

The experience to
listen
The power to
solve℠

Barton
&Loguidice

www.bartonandloguidice.com