



**Verified Carbon
Standard**

FINAL VERIFICATION REPORT

DAVIDSON COUNTY LANDFILL



GHD Services, Inc.
455 Phillip Street,
Waterloo, Ontario,
N2L 3X2
Canada

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Prepared By	GHD Services, Inc.
Contact	455 Phillip Street, Waterloo, Ontario, N2L 3X2, Canada, 519-340-4270, gordon.reusing@ghd.com, https://www.ghd.com
Approved By	Gordon Reusing – Co-Lead Verifier and Technical Expert Dana Lauder – Co-Lead Verifier
Work Carried Out By	Gordon Reusing – Co-Lead Verifier and Technical Expert Dana Lauder – Co-Lead Verifier Peter Romzick – Verifier Michelle Hirst – Technical Reviewer and Technical Expert

Summary:

Element Markets Emissions, LLC (EM) engaged GHD Services, Inc. (GHD) to complete the verification of the Davidson County Landfill (Project Activity and Verified Carbon Standard (VCS) ID: 2414 for the January 1, 2021 to December 31, 2021 Monitoring Period under the requirements of the VCS. The Project Activity is located at 220 Davidson County Landfill Road, Davidson County in Lexington, North Carolina, United States. The Project is operated by EM (Project Proponent).

The Project Activity (VCS ID: 2414) is located at 220 Davidson County Landfill Road, Davidson County in Lexington, North Carolina, United States. The Project Activity consists of a landfill gas(LFG) collection system and an electricity generator set designed to capture and combust methane generated within the Davidson County solid waste landfill. A back up flare is also connected to the LFG collection system to combust the LFG, as needed, when the engines are not operational. The LFG collection system includes a total of 102 wells.

The Project Activity achieves emissions reductions through the collection and destruction of the methane within the LFG via the electricity generator set or the flare that convert the methane to carbon dioxide, thereby preventing the release of methane to the atmosphere. The original baseline scenario of the Project Activity consisted of a landfill gas being vented into the atmosphere.

The Project Proponent utilized Climate Action Reserve (the Reserve) Landfill Project Protocol, Version 5.0, published April 24, 2019.

The scope of this verification is such that GHD, recognized as an independent third-party Validation and Verification Body by the VCS (Registration Number 027), is responsible for reviewing the Project Activity's Monitoring Report, along with accompanying supporting materials and previous VCS Verification and Validation Reports. GHD utilized a risk-based analysis against the relevant requirements of both the interpretation from the VCS Program Guide, Version 4.2, and VCS Standard Version 4.3, as applicable.

As part of the verification process, GHD reviewed the completeness, conservativeness, and accuracy of the underlying evidence for the assumptions and claims made, and data sources used. The results of the investigation were then, together with the results of the review of other areas, combined to form the necessary input for the verification report and opinion.

The verification report and associated annexes document a total of Twenty-four (24) findings, which include:

- Sixteen (16) Corrective Action Requests (CARs)
- Eight (8) Clarification Requests (CLs)
- Zero (0) Forward Action Requests (FAR)

Upon review of the documentation and explanations provided by the Project Proponent, all findings were closed in a clear and transparent manner. GHD completed the verification in accordance with the VCS Program Guide, Version 4.2, and VCS Standard, Version 4.3, in addition to the Reserve Landfill Gas Protocol Version 5.0. Based on the results of the verification, GHD is issuing a Positive Verification Opinion in regards to this Project Activity and Reporting Period. GHD therefore recommends/certifies that the registered Project Activity has obtained the reported emission reductions of 49,291 tonnes of carbon dioxide equivalent.

1	INTRODUCTION	6
1.1	Objective	6
1.2	Scope and Criteria	6
1.3	Level of Assurance	7
1.4	Summary Description of the Project	8
2	VERIFICATION PROCESS	8
2.1	Method and Criteria	8
2.2	Document Review	10
2.3	Interviews	12
2.4	Site Inspections	13
2.5	Resolution of Findings	14
2.5.1	Forward Action Requests	15
2.6	Eligibility for Validation Activities	15
3	VALIDATION FINDINGS	15
3.1	Participation under Other GHG Programs	15
3.2	Methodology Deviations	15
3.3	Project Description Deviations	15
3.4	Grouped Project	15
4	VERIFICATION FINDINGS	15
4.1	Project Implementation Status	15
4.2	Safeguards	17
4.2.1	No Net Harm	17
4.2.2	Local Stakeholder Consultation	17
4.3	AFOLU-Specific Safeguards	17
4.4	Accuracy of GHG Emission Reduction and Removal Calculations	18
4.4.1	Monitoring Parameters	18
4.4.2	Methods for Recording Monitoring Parameters	19
4.4.3	Calculation of Emission Reductions	20
4.5	Quality of Evidence to Determine GHG Emission Reductions and Removals	22
4.6	Non-Permanence Risk Analysis	25
5	VERIFICATION CONCLUSION	25

APPENDIX A: VERIFICATION PLAN	28
APPENDIX B: FINDINGS ASSESSMENT	13
APPENDIX C: VERIFICATION DEED OF REPRESENTATION	14

1 INTRODUCTION

1.1 Objective

Element Markets Emissions, LLC (EM) (Project Proponent) engaged GHD Services, Inc. (GHD) to complete the third-party greenhouse gas verification of the 2021 Monitoring Period (January 1, 2021 to December 31, 2021) for the following Verified Carbon Standard (VCS) Project Activity:

- Davidson County Landfill (Project Activity) located at 220 Davidson County Landfill Road, Davidson County in Lexington, North Carolina, United States, VCS Project ID: 2414

GHD completed the verification pursuant to the relevant requirements outlined in Section 1.2 as well as translational guidance from the UNFCCC CDM. As detailed in Section 4.1 of the VCS Standard, *“Verification is the periodic ex-post independent assessment by a validation/verification body of the GHG emission reductions and removals that have occurred as a result of the project during the monitoring period, conducted in accordance with the VCS Program rules.”*

The objective of GHD, on behalf of the VCS, is to ensure that only Project Activities that meet the established criteria receive a positive and unconditional verification representation. Specifically, the criteria states that the registered Project must result in emission reductions that are:

- Relevant
- Complete
- Consistent
- Accurate
- Transparent
- Conservative

In the verification of this VCS Project, GHD used a risk-based verification approach to focus and determine the detailed scope of the verification. The VCS and the CDM are rules-based mechanisms; GHD has ensured that the emission reductions for the 2021 Monitoring Period were developed in accordance with the VCS Program Guide Version 4.2 and the VCS Standard Version 4.3.

1.2 Scope and Criteria

The scope of the third-party verification services completed by GHD are as follows:

- Verification of the Davidson County Landfill (Project Activity) located at 220 Davidson County Landfill Road, Davidson County in Lexington, North Carolina, United States, for the Monitoring Period of January 1, 2021 to December 31, 2021, under the requirements of the VCS.

This Project Activity falls under Sectoral Scope 1 – Energy industries (renewable/nonrenewable sources) and Sectoral Scope 13 – Waste handling and disposal, for which GHD is accredited.

The Verification activities were completed pursuant to the most up to date related rules, requirements, regulations, modalities, criteria, guidelines, emission reductions yield, and principles in relation to the VCS Project Document (VCS PD) supplied by the Project Proponent. The Project Activity utilizes the Climate Action Reserve Landfill Project Protocol, Version 5.0, published April 24, 2019.

The scope of this verification is such that GHD, as an independent third party recognized as a Validation and Verification Body by the VCS (Registration Number 027) is responsible for reviewing the Monitoring Report including accompanying materials, the previous Validation Report, and the VCS PD including the Monitoring Report, baseline assessment, and any supporting documentation.

GHD has prepared this verification report in accordance with ISO Standard ISO 14064 Greenhouse gases Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions, 2006, (ISO 14064-3) along with the criteria presented in the following documents:

- VCS Program Guide, dated 22 June 2022, Version 4.2 (VCS Program Guide) ¹
- VCS Standard, dated 22 June 2022, Version 4.3 (VCS Standard) ²
- VCS Validation and Verification Manual, dated 19 October 2016, Version 3.2 (VCS VVM) ³
- Climate Action Reserve Landfill Project Protocol, Version 5.0, published April 24, 2019 (Protocol)

1.3 Level of Assurance

GHD conducted this verification to a reasonable level of assurance. Per the VCS Standard Section 4.1.8, “The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals shall be five percent for projects and one percent for large projects.”

Based on the reported emission reductions (i.e. less than 300,000 tonnes of carbon dioxide equivalent [tCO₂e]), the Project Activity is classified as a project, therefore the materiality was set at five (5) percent.

¹ <https://verra.org/wp-content/uploads/2022/06/VCS-Program-Guide-v4.2.pdf>

² https://verra.org/wp-content/uploads/2022/06/VCS-Standard_v4.3.pdf

³ https://verra.org/wp-content/uploads/2018/03/VCS_Validation_Verification_Manual_v3.2.pdf

1.4 Summary Description of the Project

The Project Activity (VCS ID: 2414) is located at 220 Davidson County Landfill Road, Davidson County in Lexington, North Carolina, United States. The Project Activity consists of a landfill gas (LFG) collection system and an electricity generator set designed to capture and combust methane generated within the Davidson County solid waste landfill. A back up flare is also connected to the LFG collection system to combust the LFG, as needed, when the engines are not operational. The LFG collection system includes a total of 102 wells.

The Project Activity achieves emissions reductions through the collection and destruction of the methane within the LFG via the electricity generator set or the flare that convert the methane to carbon dioxide, thereby preventing the release of methane to the atmosphere. The original baseline scenario of the Project Activity consisted of landfill gas being vented into the atmosphere.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The Project Team has assessed and verified that the implementation of the Project Activity and the steps taken to report the emission reductions comply with the VCS criteria and relevant guidance provided by the VCS as well as relevant criteria of the Protocol. The criteria used in the verification has been outlined in Section 1.2 above. The verification included a review of relevant documentation and records.

GHD followed a risk-based verification approach. As such, GHD identified the key reporting risks related to the claimed emission reductions and assessed to what extent the Project Activity's control systems are adequate for mitigating any perceived reporting risks.

Key reporting risks that are not sufficiently addressed by the Project Activity's control system represent residual risks. GHD conducted a detailed verification to investigate the residual risks. Key risks assessed during the verification included, but were not limited to, verification of correct use of emission factors, correct use of conversion factors, and consistency in aggregation of emissions data. Wherever practical, direct reading instruments were to be used to ensure any reporting risks were kept within equipment and instrumentation performance limits. GHD included a Risk Assessment within the Verification Plan. GHD updated the Verification Plan throughout the verification as necessary. The Final Verification Plan is provided as Appendix A.

During the verification process, the GHD Project Team considered both quantitative and qualitative information on emission reductions. Quantitative data was comprised of the Monitoring Report and accompanying information submitted to the GHD Project Team by the Project Proponent.

Qualitative data was comprised of information on internal management controls, calculation procedures, and procedures for transfer, frequency of emissions reports, and review and internal audit of calculations/data transfers.

The main components of GHD's verification process were as follows:

- Document review
- Findings Assessment and Issuance of Corrective Action Requests (CARs), Forward Action Requests (FARs) and/or Clarification Requests (CLs)
- Response to CARs, FARs, and CLs
- Draft Verification Report Issuance
- Technical Review
- Final Verification Report and Verification Statement Issuance

GHD's document review during the verification process was comprised of an evaluation of the following:

- The documentation, data and information are complete and comprehensive
- The monitoring methodologies are justified and appropriate for the specific Project Activity
- All aspects related to direct and indirect emissions, including leakage, are captured as applicable
- The calculation of GHG emission reductions is appropriate and uses conservative assumptions for estimating emission reductions
- The technical features of the Project Activity, as well as other information about the Project Activity have been sufficiently addressed
- The monitoring plan clearly identifies the frequency of responsibility and authority for, monitoring, measurement, and data recording activities and sufficiently describes quality control/quality assurance/management control procedures

The outcome of the document review process was the creation of a Findings Assessment. GHD issued the Findings Assessment to the Project Proponent for response to any corrective actions or clarification requests. Upon closing all findings identified by GHD, a Draft Verification Report was prepared. The Technical Reviewer completed a peer review of the Draft Verification Report and found no additional findings that required response from the Project Proponent. GHD issued a Draft Verification Report to the Project Proponent for review and comment. GHD then incorporated the Project Proponent's comments, as applicable and issued the Final Verification Report along with a completed Verification Representation.

GHD based the Verification Representation conclusion on the interaction of three key verification principles as follows:

1. Compliance with the monitoring plan
2. Accuracy
3. Quality of evidence

2.2 Document Review

The VCS verification process relies heavily upon document review. The primary document for review is the 2021 Monitoring Report. The Project Proponent provided GHD with the Monitoring Report and revised Monitoring Report as detailed below:

Document Date	Date Issued to GHD	Version Number	Methodology
4 May, 2022	13 June, 2022	1	Landfill Project Protocol Version 5.0
4 May, 2022	24 August, 2022	1.1	Landfill Project Protocol Version 5.0
15 Sept, 2022	19 Sept, 2022	1.2	Landfill Project Protocol Version 5.0
17 Jan, 2023	17 Jan, 2023	1.3	Landfill Project Protocol Version 5.0
16 Feb, 2023	March 9, 2023	1.4	Landfill Project Protocol Version 5.0

GHD reviewed the above submissions. GHD did not identify any issues in the Monitoring Report Version No. 1.4.

During the document review, GHD became familiar with the Project Activity to ensure the Project Proponent accurately described the on-Site conditions within the Monitoring Report. During the document review, GHD completed the following:

- Review of the data and information presented to verify completeness
- Review of the VCS PD and Monitoring Report, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures
- Evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions
- Review of the last revision of the previous verification and validation reports
- Review of operation licenses from local authorities
- Cross-check of available documentation with the registered VCS PD and Monitoring Report
- GHD followed the audit trails and data sets for specific indicators and cross-checked the applicable records

As part of the verification process GHD requested and reviewed, additional documentation supplemental to the Monitoring Report. This supplemental information included the following documents:

Date Issued to	Document(s)	Description
13 June, 2022	Davidson Tier 2 041415 Full Report.pdf Davidson_County_Tier_2_2019.pdf	2015 and 2019 Tier 2 Reports for Davidson County Landfill
13 June, 2022	DavidsonCredits.xlsx monthly raw data files 2021 Data Collated.xlsx	Raw data files for 2021 Monitoring Period
13 June, 2022	2021 Davidson ER Calcs (Engine) V1.0.xlsx 2021 Davidson ER Calcs (Flare) V1.0.xlsx	Emissions reduction calculations for engine and flare
August 24, 2022	2021 Davidson ER Calcs (Flare) V1.1.xlsx	Revised emissions reduction calculation for flare
March 2, 2023	2021 Davidson ER Calcs (Engine) V1.1.xlsx 2021 Davidson ER Calcs (Flare) V1.2.xlsx	Revised emissions reduction calculations files to include an emissions reduction summary table and tab
13 June, 2022	Davidson Gas Producers Air Permit April 2015.pdf Final Permit Title V 10408T01 04232020.pdf Solid Waste Permit 2906_DavidsonMSWLF_PTO_Ph2_Area3_Cell1_FID1257854_20181126.pdf	Regulatory permits
13 June, 2022	Davidson-Duke.pdf monthly files	Electricity bills through 2021 Monitoring Period
13 June, 2022	DVD 051909 to 052609_Davidson Data.xlsx PO 4700224426_Shaw_Now Aptim_Flare Lease.pdf	Project start date evidence
13 June, 2022	Davidson Gas Producers GHG Offset PSA - 10-20-2020_Redacted.pdf Landfill Gas Rights Agreement, Davidson County_redacted_v2.pdf Power Purchase Agreement, Duke Energy redacted_v2.pdf	Project ownership documents

Date Issued to GHD	Document(s)	Description
13 June, 2022	WO2592_CALS_DAV_21.pdf WO1539_10NOV16_Cals.pdf	Calibration certificates
19 September, 2022	WO1539_9NOV17_Cals_Rev1.pdf WO1539_10NOV16_Cals_Rev1.pdf WO1961_8Nov18_Cals_Rev1.pdf WO2162_20Nov19_Cals_Rev1.pdf WO2370_18NOV20_Cals_Rev1.pdf WO2592_CALS_Rev1.pdf	Revised calibration certificates
August 24, 2022	Fuel Usage Assertion.PNG Standardized Temp Confirmation.PNG	Project fuel usage confirmation and flow meter standard conditions confirmation
19 September, 2022	Calibration Assertion.PNG	Accuracy assertion for calibration certificates from calibration provider

2.3 Interviews

GHD completed a Site Inspection for the verification on August 16, 2022. During this portion of the verification process, GHD was able to interview a series of Project stakeholders regarding various aspects of the Project Activity. Mr. Pete Romzick of GHD completed the Site Inspection. The following Project Stakeholders were interviewed by GHD:

Name of Interviewee	Position and Company	Details of Items Discussed
Mr. Joe Sowers	Gas Plant Manager, DTE Vantage	- Process Operations at the Site - Data Management Procedures - Site Boundaries and Equipment - Flow Meters, Calibrations and Calibration procedures
Mr. James Margatis	Regional Operations Manager, DTE Vantage	
Mr. Kevin Humbert	DTE Vantage Gas Plant Operator for Davidson County Landfill Gas Plant	

2.4 Site Inspections

The verification process consisted of a thorough document review. The completion of a Site Inspection provided the GHD Project Team with an added level of assurance that the information provided within documentation from the Project Proponent is complete and accurate as it relates to the Project Activity and emission reductions for the 2021 monitoring period. In addition to interviewing Project stakeholders as per Section 2.3 of this report, the GHD Project Team completed the following:

- A walkthrough of the Site and observation of the Project Activity's implementation/operation status
- Interview personnel with knowledge of the Project Activity and its implementation/operation to cross-check information provided; interviews may be conducted during the Site Inspection but may also be completed or continued by way of telephone or email. Details of the interviews are provided in Section 2.3 above
- Inspection of all monitoring equipment and a review of calibration and inspection data
- Request of information from personnel either not made previously available or deemed necessary following site walkthrough or following interviews
- Review of compliance related to the Project Activity and the registered VCS PD
- GHD reviewed each major component of the Project Activity including the engines, metering equipment, supervisory control and data acquisition (SCADA) system, landfill gas extraction wells and associated piping, and the flare

GHD focused on the key areas identified as follows:

- An assessment of the implementation and operation of the Project Activity as per the registered VCS PD
- A review of information flows for generating, aggregating, and reporting the monitoring parameters
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the VCS PD
- A cross-check between information provided in the Monitoring Report and data from other sources such as plant log books, inventories, purchase records, or similar data sources
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS PD
- A review of calculations and assumptions made in determining the GHG data and emission reductions
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters
- An inspection of physical and organizational aspects of the Project Activity

GHD verified that the Project Activity is located at 220 Davidson County Landfill Road, Davidson County in Lexington, North Carolina, United States at the following grid coordinates:

Latitude: 35.836708°N

Longitude: -80.173958°W

2.5 Resolution of Findings

The Verification findings are categorized either as a Corrective Action Request (CAR), Forward Action Request (FAR), or as a Clarification Request (CL).

The GHD Project Team raised CARs in this Assessment if:

- The Project Proponent had made errors in assumptions or in the Project documentation that directly influenced the Project results
- The VCS requirements deemed relevant for verification of the Project Activity were not met
- There was a risk that the Project would not be registered by the VCS or that emission reductions cannot be monitored, calculated, verified, and/or certified
- The Project Proponent made mistakes that would influence the ability of the Project Activity to achieve relevant, complete, consistent, accurate, transparent, and conservative emission reductions
- The VCS requirements have not been met

When issued, FAR's highlight issues related to Project implementation that require review during the subsequent verification of the Project Activity. FAR's do not relate to the VCS requirements for registration and thus do not require any formal response from the Project Proponent. No FAR's were issued during this verification.

CL's were issued to EM if the GHD Project Team determined that the information provided by EM was insufficient, unclear or not transparent enough to establish whether the applicable requirements are met.

Each CAR and CL raised by GHD was presented in individual rows of a table that comprised the findings assessments. EM was required to complete the appropriate responses and to provide, where necessary, documentation as evidence of their assumptions and/or responses. The final Version of the Findings Assessment is provided in Appendix B.

A summary of the final results of the Findings Assessment is presented as follows:

Finding Category	Number of Findings
CL	8
FAR	0
CAR	16
TOTAL	24

2.5.1 Forward Action Requests

No FAR's were raised during the course of the verification.

2.6 Eligibility for Validation Activities

Validation activities were not performed as part of this verification.

3 VALIDATION FINDINGS

There were no validation activities that took place during the verification of this monitoring period.

3.1 Participation under Other GHG Programs

There were no validation activities that took place during the verification of this monitoring period. Clarification regarding participation under other GHG programs is provided in Section 4.1

3.2 Methodology Deviations

There were no validation activities undertaken as a part of the verification of this monitoring period.

3.3 Project Description Deviations

There were no validation activities undertaken as a part of the verification of this monitoring period.

3.4 Grouped Project

There were no validation activities undertaken as a part of the verification of this monitoring period and this is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Project Activity received its Validation Representation with the VCS dated 14 May 2021, with the Gap validation report re-issued on November 1, 2021. The Project Activity was registered utilizing Climate Action Reserve Landfill Project Protocol, Version 5.0, published 24 April 2019. The Project's start date is May 20, 2009 as evidenced by the historic monitoring data provided. The Project crediting period is from January 1, 2015 to December 31, 2021. The current monitoring period from January 1, 2021 to December 31, 2021 is within the crediting period.

Section 3.7 of the Standard states that “The project start date a non-AFOLU project is the date on which the project began generating GHG emission reductions or removals”. The earliest credit start date established under the initial Gap validation is January 1, 2015. The Project was originally registered under the Climate Action Reserve (CAR) and received offsets for June 12, 2009 to December 31, 2014. The Project transferred to Verra’s VCS Program and began a new seven-year crediting period on January 1, 2015. The project will resume credit generation under the VCS program from January 1, 2015 until the end of the project’s original crediting period, May 19, 2029. The stated crediting period is in accordance with the project crediting period Standard requirements. GHD verified that for this reporting period the Project Proponent was not claiming credits under CAR and therefore no double counting was identified. GHD verified that for this reporting period, the Project Proponent has not claimed GHG emission reductions in emissions trading programs or any other mechanism that includes GHG allowance trading.

Monitoring data was provided for the 2021 Monitoring Period related to the destruction of LFG from the Davidson County Landfill in engine generator set and flare. GHD verified that the data collected for the 2021 Monitoring Period was in accordance with the monitoring requirements of the registered VCS PD. The engine generator set, and flare actively destroyed LFG during this Monitoring Period.

Based on a review of project information, GHD determined that there are no material discrepancies between project implementation and the VCS PD.

GHD’s review of the monitoring plan and monitoring systems confirmed that the Project Activity is operating according to the monitoring plan, and the data collection methods and monitoring systems implemented at the Project Activity are robust.

Duke Energy purchases electricity generated from the Project, per the “Renewable Energy Power Purchase Agreement” between Duke Energy Carolinas, LLC and Davidson Gas Producers, LLC. Duke Energy generates Renewable Energy Credits (RECs) from the electricity generated by the Project.

The Project Activity supports sustainable development as it involves renewable energy generation.

In 2021, methodology deviations that were in place during previous monitoring periods were removed and no methodology deviations were in place for the Project Activity. Unlike previous monitoring periods, operational data was available for the flare and emission reductions are claimed for LFG destroyed by both the engine and flare, with no applicable methodology deviations.

Based on the information provided to GHD from the Project Proponent, GHD concludes that the Project Activity has been implemented as described in the VCS PD.

4.2 Safeguards

4.2.1 No Net Harm

The Project Proponent did not identify any negative environmental and socio-economic impacts. GHD performed an independent review of the permits associated with the Project Activity and the EPA's ECHO database and did not identify any violations or non-conformances associated with the Facility's permit under the Clean Water Act.

The capacity of Davidson County Landfill associated with the Project Activity exceeded the 2.5 million cubic meter threshold. The Solid Waste permit evidences a partially filled and approved-for-construction design capacity of 3,423,125 CY (2,617,167m³) with the approved construction of Area 3 of the Phase 2 approval. The Tier 2 sampling conducted by the site in April 2019 detailed projected NMOC emissions of 12.6 Mg/year for 2021, which is below the 35 Mg/year threshold specified in the NSPS for municipal solid waste (MSW) landfills contained in 40 CFR Part 60, Subpart XXX. As only one criteria set forth in the NSPS Guideline was met which includes the design capacity criteria, mandatory LFG collection system installation is not required. This standard is intended to identify and address landfill sites that may result in harm to the environment.

4.2.2 Local Stakeholder Consultation

The Project Proponent engages in the public comment period requirement for obtaining and renewing the Title V Air Permit for the Project. The Air Permit application process includes a 30-day public comment period and 45-day EPA review. The comment period and Air Permit are publicized in local newspaper and online by The North Carolina Division of Air Quality.

4.3 AFOLU-Specific Safeguards

The Project Activity is not an Agriculture, Forestry and Other Land Use (AFOLU) project; therefore, there are no AFOLU-Specific safeguards.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

4.4.1 Monitoring Parameters

The following is a list of the monitoring parameters that the Project Proponent monitor and record throughout the crediting period in order to calculate the claimed emission reductions for the specific Monitoring Period:

Parameter (Units)	Description	Frequency
Flow rate of landfill gas entering engine (scfm)	Flowrate of landfill gas delivered to qualifying destruction device at 60 degrees F and 1 atm	Continuous (SCADA), 15 minutes or less
Flow rate of landfill gas entering flare (scfm)	Flowrate of landfill gas delivered to qualifying destruction device at 60 degrees F and 1 atm	Continuous (SCADA), 15 minutes or less
Methane Concentration (scf CH ₄ / scf LFG (%))	Methane fraction of landfill gas destroyed	Continuous (SCADA), 15 minutes or less
Thermocouple Temperature (degrees F)	Temperature of flare during destruction of methane gas	Continuous (SCADA), 15 minutes or less
Power Generation (kWh)	Power generation from engine generator set	Every 30 minutes
Fossil Fuel Usage (gallons): Gasoline, propane	Fossil fuel used for project activity	Once per reporting period
Electricity Purchased (kWh)	Amount of electricity purchased for project activities	Monthly
All relevant permits and regulatory documents	Tier 2 Reports, Title V permits, operating permits	Annually
GWP (tCO ₂ /tCH ₄)	Global Warming Potential for Methane	N/A
OX	Factor for the oxidation of methane by soil bacteria	N/A

Parameter (Units)	Description	Frequency
EF _{FF} (kgCO ₂ /gal propane)	Emission factor for propane	N/A
EF _{FF} (kgCO ₂ /gal gasoline)	Emission factor for gasoline	N/A
EF _{EL} (lbsCO ₂ /MWH)	CO ₂ emission factor for electricity used	N/A
EL _{PR} (MWh)	Total electricity consumed by the project landfill gas collection and destruction system during the reporting period	Monthly

The GHD Project Team reviewed the monitored parameters and their frequency, equipment used, and description. The GHD Project Team also verified that the monitoring of the above parameters coincides with the Protocol and VCS guidance for the projected emission reductions. The parameters listed above are consistent with the registered VCS PD. The GHD Project Team also notes that the parameters available at validation detailed in the registered VCS PD have been applied appropriately.

4.4.2 Methods for Recording Monitoring Parameters

Landfill gas (LF) from three separate areas of the landfill meet up near the gas plant and enter the gas plant in one line. The landfill gas normally goes to the engine which turns the generator to produce electricity. The gas flow rate to the engine and to the flare are measured separately in scfm with flow meters flare and a SCADA system that includes a PLC. The engine's operation is monitored using continuous electricity generation readings and the flare's operation is monitored using continuous thermocouple readings. The Project Activity uses their internal SCADA system to record the monitoring parameters listed in Section 4.4.1 where the frequency of collection is continuous. Overall properties of the of the combined gas stream are monitored at the gas plant (delivery pressure, heating value, % methane, % oxygen). Methane concentration is recorded by a methane analyzer. If an issue is identified during the monitoring, the incoming streams are spot monitored as needed to determine the source of the potential issue. GHD reviewed the SCADA system during the Site Inspection on August 16, 2022. GHD confirmed that the SCADA system is backed-up on-Site and externally. GHD verified that the above noted parameters are recorded via the SCADA system.

From the SCADA system, the data is automatically transferred to an Emerson ROCLINK 809 (ROC). The data is then saved on a server operating Rockwell Software FactoryTalk Historian. All operating parameters and data are automatically captured by the data management system and are transmitted to DTE automatically on a periodic basis, at least once per day. The data is also stored on-site for a period of time as a backup. The gas plant operator has no access to what data is captured or transmitted, it is all automatically conducted. The gas plant operator ensures that the incoming gas has acceptable properties. The plant manager sends a monthly report to the regional manager on the flow, CH₄, and BTU's. Shevada (of DTE in Detroit) prepares a similar report for the Plant Manager to confirm as a double check. DTE is responsible for compiling data and sharing with Element Markets to facilitate emissions reduction calculation. Starting in 2021, the data is downloaded monthly and shared with Element Markets.

4.4.3 Calculation of Emission Reductions

Baseline Emissions

To quantify Baseline Emissions for the Project, the following methodology was used:

- Landfill Project Protocol Version 5.0, Climate Action Reserve, dated April 24, 2019 (Protocol)

The calculation methodology was applied to the calculation of emissions from methane contained within LFG which is generated from the decomposition of solid waste from within the landfill and combusted during electricity generation or in a flare.

For this Project Activity the baseline emissions consist of those associated with the volume of LFG that is destroyed in the engine and flare to generate electricity.

The Baseline Emissions also include quantification of the fraction of methane in the LFG that would be oxidized in the top layer of the landfill in the baseline. GHD verified that the Project Proponent has applied the Baseline Emissions calculations appropriately and they are consistent with the VCS PD.

Project Emissions

To quantify Project Emissions for the Project, the following methodology was used:

- Landfill Project Protocol Version 5.0, Climate Action Reserve, dated April 24, 2019 (Protocol)

The calculation methodology for the project emissions was applied to the calculation of emissions from the following sources:

- Fossil Fuel Emissions – CO₂ – Generated from the combustion of fossil fuels (propane and gasoline)
- Electricity Consumption Emissions – CO₂ – Generated from the grid consumption of electricity within the Project Boundary

GHD verified that the Project Proponent has applied the Project Emissions calculations appropriately and they are consistent with the VCS PD.

Leakage

No leakage effects are accounted for under the Reserve's Landfill Project Protocol Version 5.0.

Net GHG Emission Reductions or Removals

The net GHG emission reductions are simply calculated by subtracting the project emissions from the baseline emissions. GHD verified that this calculation has been performed appropriately by the Project Proponent for the 2021 monitoring period.

Uncertainty Associated with the Calculation of Emissions

GHD identified the following uncertainties associated with the calculation of the Baseline and Project emissions which were addressed through the issuance of the following CAR's:

- GHD notes that for the Flare emissions calculations, tab 'Raw data', the amount of voided flare flow is not based on the correct checks as occurring in columns N through R. For example, a check is not included for flow readings with flare temperatures <500F. The checks in column P and R relating to engine operation and flow meter temperatures do not seem relevant. GHD re-calculated flare emissions, including a check for flare temperature and determined an 8.25% discrepancy (underreporting) in total emission reductions. The Project Proponent revised the Monitoring Report to correct the discrepancy.

Documentation

The Project Proponent provided a calculation spreadsheet to support applicable calculations. Additional documentation and information were provided by the Project Proponent to support the values used in the calculation spreadsheet.

Default Values

GHD reviewed the appropriateness of the default values applied by the Project Proponent and determined that the default values applied were appropriate.

Conclusion

The referenced methodology has been applied correctly to calculate baseline emissions, project emissions and net GHG emission reductions.

Relevant assumptions and data have been listed in the VCS PD and have been followed.

Data and parameter values used in the VCS PD are reasonable in the context of the Project and have consistently been applied during the 2021 Monitoring Period, unless otherwise noted.

Estimates of the baseline and project emissions can be replicated using the provided data and parameters values listed in the VCS PD and 2021 Monitoring Report. There is a 0.0% discrepancy in total reported emission reductions.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

GHD reviewed the quality of the evidence provided during the verification and requested additional evidence as required to further support the determination of emission reductions. Provided below is a summary of the CL's that were used through the verification process to address specific evidence requirements and clarify the quality of evidence:

CL#1 – Request for the Project Proponent to clarify how propane and gasoline consumption was determined for the monitoring period.

CL#2 – Request for evidence that flow meters standard conditions are in alignment with those required by the Reserve

CL#3 – Request for clarification surrounding the use of the same methane readings for engine and flare emissions calculations

CL#4 – Request for clarification surrounding missing raw flow data and methane readings for the month of January

CL#5 – Request for clarification surrounding no flow for many instances throughout the months of January to April

CL#6 – Request for clarification on whether any data substitutions were made

CL#7 – Request for evidence from calibration provider, that the flow meter calibration certificates accurately represent information for the actual flow meters on-site, as GHD personnel identified a discrepancy between the listed flow meter serial numbers on the certificates and on-site, during the site visit. Additionally, a request for clarification on whether more recent calibration results were taken, that demonstrate the accuracy of the certificates.

As described in CL#7, GHD identified during the site visit that the flow meter serial numbers listed on the 2021 calibration certificates were inconsistent with observed during the site visit for both the engine and flow meters. GHD observed the following serial numbers during the site visit:

- Gas to engine transmitter: Model # RSP1CS GP3, Serial # 4691177
- Gas to flare transmitter: Model # RSP1CS GP3, Serial # 4691608

GHD observed the following serial numbers on the 2021 calibration certificates:

- Main Gas D/P Engine (gas flow to engine): FT-200, Fisher Model: RSP1C-GP3, Serial # 4691178
- Flare Flow D/P (gas flow to flare): FT-100, Fisher Model: RSP1C-GP3, Serial # 4691177

During the site visit it was observed that the electronic copies of the 2020 calibrations from November 2020 contained the serial numbers as in the 2021 calibration certificates from November 2021. These serial numbers were consistent for all the calibrations by Process Automation Service Solutions (PASS), the first of which was dated November 10, 2016. Per Mr. Sower of DTE, prior to this date the calibrations were conducted by Instrument and Valve Services for Emerson Process Management. The last record by Instrument and Valve Services that was provided is dated March 24, 2015 and contains serial numbers consistent with those observed during the site visit.

Mr. Sower of DTE re-provided the calibration records for 2016 through 2021, identified with a revision 1 identifier in the file name, which were consistent with the numbers observed in the field. As described in CL#7, GHD requested for additional evidence. EM provided an email confirmation from PASS that described the issue as arising from a corruption in the serial number data filed of the electronic certificates during development, that was subsequently corrected to obtain the revised certificates. The PASS contact describes that the technicians are confident in the reported as-found and as-left readings as original. Although the attestation provided as provided through email is not binding, as it was provided by from Loretta Falese Kelly, General Manager/CEO of PASS, a binding-officer of the organization, GHD considers the attestation provided as acceptable. EM confirmed that there were no other recent calibrations and certificates that could be provided as additional evidence, and that calibrations are scheduled to take place as routinely-scheduled in November 2022 as the next annual calibration.

CL#8 – Request for clarification on whether any field checks for monitoring instruments were conducted in accordance with the Protocol

Each of the above noted CLs were closed out by GHD through explanation by the Project Proponent and the submission of additional supporting evidence to GHD. Refer to Appendix B for additional details.

GHD rose sixteen CARs during the verification process to request updates to project documentation as follows:

CAR#1 – Notify the Project Proponent of a correction to flare flow amounts used for flare emissions calculations, as the flare flow voiding calculation did not incorporate a check for flare temperature and incorrectly incorporated checks used for the engine flow calculation.

CAR#2 – Notify the Project Proponent that an updated Landfill Gas Protocol version 6.0 was released on June 8, 2022 and the Project Proponent has the option to update the Monitoring Report in accordance with the released Protocol.

CAR#3 – Notify the Project Proponent of a correction to the flow meter serial numbers in the Monitoring Report which varied from the numbers observed during the site visit.

CAR#4 – Notify the Project Proponent of a correction to the Monitoring Report title from 'Monitoring Plan' to 'Monitoring Report'.

CAR#5 – Notify the Project Proponent of a correction to the version number of the Monitoring Report, after it was revised to address CAR#1

CAR#6 - Notify the Project Proponent of a correction to the report ID on the Monitoring Report to be revised to include an identification number for the report.

CAR#7 – Notify the Project Proponent that Monitoring Report V1.2 lists a previous version of the flare emissions reductions calculations to what was actually used. Notify the Project Proponent to submit the latest version of the flare emission reductions calculations V1.1 to VCS.

CAR#8 – Notify the Project Proponent of a correction to Section 4.2 of Monitoring Report V1.2 to for all parameters having estimated values listed for the value applied to be changed to the actual values determined for the reporting period. These include the average methane concentration, kWh output, and landfill gas flow rate.

CAR#9 – Notify the Project Proponent of an inconsistency to parameters LFGadjusted, CH4DestPR, CH4Destengine and Q as listed in Section 4.2 and 5.1 of Monitoring Report V1.2 in comparison to the calculations files.

CAR#10 – Notify the Project Proponent of a minor transcription error in Section 4.2 of Monitoring Report V1.2 where the gasoline emission factor table includes the incorrect description for the gasoline emission factor.

CAR#11 – Notify the Project Proponent to provide GHD with a revised Monitoring Report (V1.3) addressing issues 7-12 identified.

CAR#12 – Notify the Project Proponent to update the Issue Date and Monitoring Report version number in the tracked changes version and final PDF version of the Monitoring Report. CAR#13 – Notify the Project Proponent to include a summary tab in the emissions reductions calculations files that clearly show the baseline, project and leakage emissions as listed in Section 5.4 of the Monitoring Report.

CAR#14 – Notify the Project Proponent that an image of the emissions reductions summary table as found in the newly created summary tab, must be included in Appendix A of the Monitoring Report as well as the tables demonstrating the project emissions. Notify the Project Proponent that the baseline emissions as found in the overall emission reductions tables for the flare and engine respectively should be clearly indicated in Appendix A.

CAR#15 – Notify the Project Proponent of an inconsistency to the average methane concentration and landfill gas flow rate parameters for the engine and flare in the Monitoring Report, in comparison to the emission reduction calculations files.

CAR#16 – Notify the Project Proponent of text formatting inconsistencies within the Monitoring Report.

The Monitoring Report was revised to version 1.1 to address the flare emissions calculation error. The Monitoring Report was revised to version 1.2 to address CAR#3 -4. The Project Proponent chose not to update the Monitoring Report according to CAR#2, to ensure consistency with the methodology used in the previous crediting period. The Monitoring Report was revised to version 1.3 to address CAR# 7-12. The Monitoring Report was revised to version 1.4 to address CAR# 13 -16.

Through a review of each of the different sources of evidence provided by the Project Proponent, GHD was able to verify that the evidence clearly and transparently conveys the data generation, aggregation, recording, calculation, and final transposition into the 2021 Monitoring Report. The information is clearly conveyed by the Project Proponent from the metering through to the SCADA system, and the calculation spreadsheet. The instrument calibration documentation, 2021 Monitoring Report, raw data, and permitting documentation support the transparency and quality of the information provided by the Project Proponent.

Monitoring Equipment Calibration Frequency

During the verification, GHD performed a review of the monitoring frequency provided in the 2021 Monitoring Report for the monitored parameters and confirmed that it was consistent with the VCS PD. GHD reviewed the calibration requirements and determined that the manufacturer calibration frequency requirements were met in the 2021 Monitoring Period.

Conclusion

GHD concluded that the Project Proponent provided the required evidence with appropriate quality that allowed for accurate determination of the GHG emissions reductions from the Project Activity for the 2021 Monitoring Period.

4.6 Non-Permanence Risk Analysis

The Project Activity is not an Agriculture, Forestry, and Other Land Use (AFOLU) project, therefore a non-permanence risk analysis is not required.

5 VERIFICATION CONCLUSION

The verification of the Project Activity was performed in accordance with the following documents:

- ISO Standard ISO 14064 Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions (ISO 14064-3) along with the criteria presented in the following documents:
- VCS Program Guide, dated 22 June 2022, Version 4.2
- VCS Standard, dated 22 June 2022, Version 4.3
- VCS Validation and Verification Manual, dated 19 October 2016, Version 3.2

- VCS Project Description, 19 July 2021 reissued 5 November 2021
- Landfill Project Protocol Version 5.0, Climate Action Reserve, dated April 24, 2019 (Protocol)

Through the collection of LFG from the LFG collection system in the Davidson County Landfill, including blowers, and subsequent destruction of the LFG in an electricity generation engine and/or a back up flare, the Project Activity resulted in a reduction of GHG emissions that are relevant, complete, consistent, accurate, transparent and conservative.

Furthermore, the emission reductions generated by the Project Activity serve to contribute to sustainable development, and will result in long term benefits to the mitigation of climate change.

Provided below is a summary of the emissions reductions:

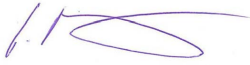
Verification/Monitoring Period: From 1 January, 2021 to 31 December, 2021

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2021	49,397	106	0	49,291
Total	49,397	106	0	49,291

It is GHD's opinion that the emission reductions attributable to the Project Activity are free of material misstatements and concludes to a reasonable level of assurance that the emission reductions are additional to any emission reductions that would occur in the absence of the Project Activity. As a result, GHD is issuing a positive Verification Opinion in regards to this Project Activity and will therefore be approving the Project Activity for registration with the VCS with no limitations or qualifications.

The Verification Deed of Representation is provided in Appendix C. GHD has not raised any qualifications or limitations.



Gordon Reusing, Co-Lead Verifier



Dana Lauder, Co-Lead Verifier



Michelle Hirst, Technical Reviewer

APPENDIX A: VERIFICATION PLAN

Our ref: 12589759-LTR-1-rev2

10 March 2023

Ms. Lucy Huang
Element Markets
3200 Southwest Freeway, Suite 1310
Houston, Texas
77027

Verification Plan
Davidson County Landfill
Lexington, North Carolina, United States
VCS ID: 2414
Monitoring Period: January 1, 2021 to December 31, 2021

Dear Ms. Huang

1. Introduction

Element Markets (EM) retained GHD Services Inc. (GHD) to complete an independent third-party greenhouse gas (GHG) verification of the Davidson County Landfill (Project Activity), which is listed under the Verified Carbon Standard (VCS) as VCS ID: 2414. The project is located in Lexington, North Carolina, United States of America. The owner of the Project is Davidson Gas Producers, LLC (DGP), which is a wholly-owned subsidiary of DTE Energy. EM is the Project Proponent. The verification will be of the 2021 monitoring period beginning on January 1, 2021 and ending on December 31, 2021.

The Verra: VCS program was established to provide a global standard for both validation and verification projects on a voluntary basis. The VCS takes the most stringent principles and standards available to the international GHG market, including and comprising of the United Nations Framework Convention on Climate Change (UNFCCC) and Climate Action Reserve, with reporting completed to the International Standards Organization (ISO) 14604 Part 3 standard.

GHD is a VCS-recognized GHG Validation/Verification Body (VVB) (Registration Number 027) and is accredited by the ANSI National Accreditation Board (ANAB).¹ under ISO 14065 to provide organizational and project level validation and verification services.

The VCS defines verification as "the periodic ex-post independent assessment by a validation/verification body of the greenhouse gas emission reductions and removals that have occurred as a result of the project during the monitoring period, conducted in accordance with the VCS Program rules".² GHD has prepared this Verification Plan in accordance with ISO Standard *ISO 14064 Greenhouse gases - Part 3: Specification with*

¹ ANAB is a member of the International Accreditation Forum (IAF).

² https://verra.org/wp-content/uploads/2020/03/VCS-Standard-v4.0_Updated.pdd (Section 4.).

guidance for the validation and verification of greenhouse gas assertions (ISO 14064-3:2019), and with the requirements of the following documents:

- VCS Program Guide, dated 22 June 2022, Version 4.2 (VCS Program Guide) *
- VCS Standard, dated 22 June 2022, Version 4.3 (VCS Standard) *
- VCS Validation and Verification Manual, dated 19 October 2016, Version 3.2 (VCS VVM)

Note:

* - denotes change from Proposal

In accordance with the VCS Program Guide, eligible GHG emissions reductions projects are to be evaluated by an accredited Validator/Verifier who has been approved under an accredited GHG program. GHD is a recognized Validator/Verifier under the VCS for projects within the following sectoral scopes:

- Sectoral Scope 1 - Energy industries (renewable/non-renewable sources)
- Sectoral Scope 4 - Manufacturing industries
- Sectoral Scope 5 - Chemical industry
- Sectoral Scope 8 - Mining/Mineral production
- Sectoral Scope 9 - Metals production
- Sectoral Scope 10 - Fugitive emissions from fuels (solid, oil, and gas)
- Sectoral Scope 12 - Solvents use
- Sectoral Scope 13 - Waste handling and disposal

EM is responsible for the preparation and fair presentation of the Monitoring Report in accordance with VCS.

2. Verification Objective

GHD, as an independent third-party recognized as a VVB by the VCS (Registration Number 027), is responsible for reviewing the 2021 Monitoring Report including accompanying materials, previous Validation Report, and the VCS Project Description (PD) including the monitoring plan, baseline assessment, and any supporting documentation.

The objective of the verification is for GHD to provide the Project Proponent and VCS with an opinion regarding whether the 2021 Monitoring Report contains any material discrepancies and whether the Monitoring Report was prepared in accordance with VCS Program Guide Version 4.2 and VCS Standard Version 4.3 as well as the translational guidance from the UNFCCC CDM.

Per the VCS VVM, during verification VVBs must evaluate the Monitoring Report and assess the following:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated PD. This includes ensuring conformance with the monitoring plan.
- The extent to which GHG emission reductions and removals reported in the monitoring report are materially accurate.

3. Level of Assurance

The verification will be conducted to a reasonable level of assurance.

4. Materiality Threshold

Materiality threshold for the Project Activity has been set at plus or minus 5 percent based on the understanding that the Project Activity produces less than 300,000 tons of carbon dioxide equivalent (tCO_{2e}) of GHG emission reductions per year and is categorized as a “project” in accordance with Section 3.9.1 of the VCS Standard. A single error, omission, or misstatement, a series of discrete errors, omission or misrepresentation, or one or more qualitative factors, when aggregated may be considered material.

5. Verification Standards and Criteria

The verification of the 2021 monitoring period will be conducted in accordance with the requirements presented in the following documents:

- VCS Program Guide, Version 4.2, dated June 22, 2022 (VCS Program Guide)
- VCS Standard, Version 4.3, dated June 22, 2022 (VCS Standard)
- VCS Validation and Verification Manual, Version 3.2, dated October 19, 2016 (VCS VVM)
- Landfill Project Protocol Version 5.0, Climate Action Reserve, dated April 24, 2019 (Protocol)
- ISO 14064 Greenhouse Gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions, ISO, March 2006 (ISO 14064-3:2006)

GHD is currently in the process of becoming accredited to the new ISO 14064-3 (2019) standard and will follow its procedures in this verification.

6. Scope of Services

The scope of services to be completed by GHD are as follows:

- Verification of the Davidson County Landfill located in Lexington, North Carolina, U.S.A for the monitoring period of January 1, 2021 through December 31, 2021 under the requirements of the VCS

The Project Activity (VCS ID: 2414) is located at the Davidson County Landfill in Lexington, North Carolina, U.S.A (Landfill, Facility, or Site). The Project Activity consists of a landfill gas (LFG) collection and control (GGCS) system and an electricity generator set designed to capture and combust methane generated within the Davidson County municipal solid waste landfill and generate renewable electricity. A back up flare is also connected to the LFG collection system to combust the LFG, as needed, when the engine is not operational. The GGCS consists of 77 vertical extraction wells that are connected to an engine and flare. The original baseline scenario of the Project Activity consisted of a landfill gas collection system with passive venting.

This Project Activity falls under Sectoral Scope 1 – Energy industries (renewable/non-renewable sources) and Sectoral Scope 13 – Waste handling and disposal, for which GHD is accredited. GHD understands for the purposes of this verification, that all correspondence with respect to this Project Activity is with Element Markets, unless otherwise noted.

The verification activities will be completed pursuant to the most up-to-date related rules, requirements, regulations, modalities, criteria, guidelines, emission reductions yield, and principles in relation to the PD supplied by the Project Proponent. The Project Activity utilizes the Climate Action Reserve (CAR) protocol titled: "Landfill Project Protocol", Version 5.0 which is dated April 24, 2019. This methodology has been accepted for use by the Verra: VCS as part of the validation of the first crediting period for the project that began on January 1, 2015 and ends on December 31, 2021.

6.1 Geographical and Organizational Boundaries

The verification will include the emission sources from the Facility, which is located at the following address:

1242 Old Highway 29
Thomasville, NC
27360
United States

6.2 Verification Team

The Verification Team will consist of the following members:

Co-Lead Verifier – Dana Lauder, P.Eng.

Ms. Lauder is a Project Manager with GHD in the Air Quality Services group and is a Lead Verifier and Ontario Program Manager in GHD's Greenhouse Gas Assurance Services Group. Ms. Lauder is a licensed professional engineer in the Province of Ontario. Ms. Lauder has over 17 years of practical experience with air quality, emissions inventories, dispersion modelling, compliance, and greenhouse gas emissions assessment.

Ms. Lauder has extensive experience completing GHG inventories and verification projects in accordance with the ISO protocols for regulatory and voluntary reporting. Ms. Lauder has acted as Lead Verifier, Peer Reviewer and Technical expert for verifications in Ontario, Alberta, and Quebec. Ms. Lauder is well versed with the current regulations and reporting guidance, with respect to reporting GHG emissions.

Role of Co-Lead Verifier: As Co-Lead Verifier, Ms. Lauder is the primary contact for EM. The Co-Lead Verifier is responsible for establishing that no conflicts of interest are present prior to initialization of the work. During the verification Ms. Lauder will be responsible for preparing and/or reviewing and issuing the findings assessments as well as the transfer of material to the Independent Technical Reviewer when required.

Co-Lead Verifier and Technical Expert – Gordon Reusing, M.Sc., P.Eng.

Mr. Reusing is a greenhouse gas (GHG) Lead Verifier, Lead Validator, and Peer Reviewer with extensive experience including GHG programmes in Alberta, British Columbia, Ontario, Quebec, Nova Scotia, California, and programmes operated by the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM), The Gold Standard, The Climate Registry (TCR), the Carbon Disclosure Project (CDP), and Verra: Verified Carbon Standard (VCS). Mr. Reusing has completed numerous GHG quantification studies for the oil and gas sector, including upstream, midstream, and downstream facilities. Mr. Reusing has conducted GHG verifications as a Lead Verifier, Technical Expert and Peer Reviewer in many jurisdictions, including, but not limited to, the Alberta Carbon Competitiveness Incentive Regulation (CCIR), Ontario Regulations, British Columbia Greenhouse Gas Reduction (Cap and Trade) Act, (B.C. Reg. 272/2009), and Quebec Regulation R.Q.c.Q 2, r.15 (Quebec Regulation).

Role of Co-Lead Verifier: As Co-Lead Verifier, Mr. Reusing is the primary contact for EM. The Co-Lead Verifier is responsible for establishing that no conflicts of interest are present prior to initialization of the work. During the verification Mr. Reusing will be responsible for preparing and/or reviewing and issuing the findings assessments as well as the transfer of material to the Independent Technical Reviewer when required.

Verifier – Peter Romzick, P. Eng.

Mr. Romzick is an Associate of GHD and a senior environmental engineer. Mr. Romzick is a registered professional engineer in the State of Michigan. Mr. Romzick provides environmental consulting services to oil and gas, secondary aluminium, automotive, metal parts coating, coking and chemical processing industries that are focused on Clean Air Act and RCRA Compliance. Mr. Romzick has conducted multi-media environmental compliance audits for numerous facilities across the country. Mr. Romzick's air permitting experience includes New Source Review Permits (NSR), Prevention of Significant Deterioration (PSD), synthetic minor and Title V air permits. Mr. Romzick has experience in preparation of Pollution Incidence Prevention Plans (PIPP),

Stormwater Pollution Prevention Plans (SWPP), Annual Air Emissions Reporting in multiple states, Spill Prevention Control and Countermeasures Plan (SPCC), and Risk Management Plans (RMP).

Role of Verifier: The verifier is responsible for supporting the lead verifier(s) in preparing and/or reviewing and issuing the findings assessments as well as the transfer of material to the Technical Reviewer when required. The verifier will conduct a site visit of the Facility.

Technical Reviewer and Technical Expert – Michelle Hirst

Ms. Hirst holds a Master of Science in Environmental Governance from the Albert Ludwig Universität in Germany and a Bachelor of Environmental Science (Hons.) from The University of Newcastle in Australia. Ms. Hirst has held roles in greenhouse gas teams in Germany, Canada, and the USA. Ms. Hirst has over 8 years of experience preparing emission reports, as well as verifying offset projects and emission reports. Her capabilities have involved verifying fugitive emissions, ozone depleting substances, forestry, mine methane capture, and livestock offset projects under the ARB, Climate Action Reserve (CAR), American Carbon Registry (ACR), and Verra (formerly Verified Carbon Standard), as well as verifying emission reports submitted under the British Columbia (BC) Reporting Regulation, Alberta Environment and Parks (AEP) Specified Gas Emitters Regulation (SGER), and Ontario Regulation (O. Reg.) 390/18 in Canada, and corporate emission reports submitted under the Global Reporting Initiative.

Ms. Hirst is an ARB accredited Lead Verifier and Offset Project Specialist for livestock, mine methane capture and ODS projects, and a CAR accredited Lead Verifier and Landfill Project Specialist. In addition, Ms. Hirst is accredited by the Climate Action Reserve as a Team Leader in the Climate Forward program.

Role of Technical Reviewer and Technical Expert: As the Technical Reviewer and Technical Expert, Ms. Hirst is responsible for the third-party review of the verification report prepared by the Verification Team against the requirements of the VCS specifically providing technical expertise for the overall independent review process.

GHD notified EM if team changes were required during the verification.

7. Verification Process

The main components of GHD's verification process will be as follows:

- Document Review
- Preparation of Assessment List and Completion of a Site assessment
- Verification Assessment and Issuance of Corrective Action Requests (CARs)/Clarification Requests (CLs)
- Response to CAR(s)/CL(s)
- Review and/or development of Forward Action Requests (FARs), as applicable
- Technical Review
- Draft Verification Report Issuance
- Final Verification Report Issuance
- Verification Representation

The timelines associated with each of these items are discussed in the sections to follow.

7.1 Overview of Verification Process

The Verification Team will assess and verify if the implementation of the Project Activity and the steps taken to report GHG emission reductions comply with the VCS criteria and relevant guidance provided by the VCS outlined in Section 5. The verification will include a review of relevant documentation and records.

During the verification process, GHD's Verification Team will consider both quantitative and qualitative information on emission reductions. Quantitative data will be comprised of the Monitoring Report(s) submitted to the Verification Team by the Project Proponent. Qualitative data comprised of information on internal management controls, calculation procedures, and procedures for transfer, frequency of emissions reports, and review and internal verification of calculations/data transfers.

The verification conclusion will be based on the interaction of the VCS Program principles as follows:

1. Relevance
2. Completeness
3. Consistency
4. Accuracy
5. Transparency
6. Conservativeness

7.2 Client Contact

Ms. Lucy Huang is GHD's contact at EM for this verification.

7.3 Verification Findings

During the verification process, the Verification Team may identify findings related to the Project Activity's ability to meet VCS requirements and achieve credible emission reductions. Although there are different methods of reporting such results, it is imperative that these issues are transparently identified, discussed, and resolved in the Verification Report.

If during the verification of the Project Activity, the Verification Team identifies findings that need to be addressed to confirm that the Project Activity meets the VCS requirements, the Lead Verifier will issue a CAR, CL, and/or a FAR, as appropriate, to the Project Proponent via a findings assessment.

Iterations of these requests will continue until such a time as the Lead Verifier can adequately resolve or "close out" the identified CAR(s), CL(s), and/or FAR(s), as applicable.

Each of these procedures is discussed in further detail below.

Corrective Action Request (CAR)

A CAR is issued during a verification if the VVB has identified a material discrepancy or non-conformance that the Project Proponent must address. More specifically, the CDM provides a standard that the VVB can use for the issuance of CARs, as detailed below, based on Section 9.1.3.2 of the CDM Validation and Verification Standard³:

- Non-compliance with the registered monitoring plan, the applied methodologies, the applied standardized baselines or the other applied methodological regulatory documents is found in monitoring and reporting and has not been sufficiently documented by the Project Participant(s), or if the evidence provided to prove conformity is insufficient.
- Modifications to the implementation, operation and monitoring of the registered CDM project activity has not been sufficiently documented by the Project Participant(s).
- Mistakes have been made in applying assumptions, data or calculations of GHG emission reductions or net anthropogenic GHG removals that will impact the quantity of emission reductions or removals.
- Issues identified in a FAR during the validation to be verified during the verification or the previous verification(s) have not been resolved by the Project Participant(s).

³ CDM validation and verification standard for project activities

The above issues could result in the expected emission reductions not being realized.

The Lead Verifier will resolve or "close out" CARs only if the Project Proponent modifies the Monitoring Report, or provides adequate additional explanations or evidence that satisfies the Verification Team's concerns and the VCS requirements. GHD is unable to issue a Verification Representation prior to the resolution of all CARs. The Verification Team will report on all CARs in the findings assessment and Verification Report.

Clarification Request (CL)

In general, a CL is a request for additional clarification made by the Verification Team to the Project Proponent when the Project Activity reporting, lacks transparency, is unclear, and further information is needed to determine whether the applicable requirements are met.

The Lead Verifier will resolve or "close out" CLs only if the Project Proponent provides adequate additional explanations or evidence that satisfies the Verification Team's concerns and the VCS requirements.

Forward Action Request (FAR)

A FAR is a request made during the validation to "identify issues related to project implementation that require review during the first verification of the proposed CDM project activity."³

The Lead Auditor will address any FAR(s) raised from the validation during the verification, as required. In addition, FAR(s) may also require review in subsequent verifications. The Project Auditing Team will report on all FARs in the findings assessment and Verification Report.

7.4 Site Visit

As this GHD's first verification of the Facility, GHD will conduct an in-person site visit to visit the Project site to witness the operations, collect sample data and inspect data management systems.

The Site Visit generally adhered to the following agenda. Deviations from the proposed agenda may have been necessary to respond to data gaps and or issues identified during the verification process:

- Opening Meeting - Introduction and sign in, safety review, and overview of verification process and expectations (key personnel need to be present)
- Overview of landfill gas collection process at the Facility, including description of key emission sources and a review of the process flow diagram
- Review of monitoring practices, quality control and quality assurance procedures, GHG data and emission calculations, and any personnel activities that have a potential to impact materiality
- Review of meter calibration certificates and accuracy specifications for key meters
- Interviews with key personnel and review of data acquisition process from meter through distributed control system or transcription and data entry, as applicable
- Walkthrough to view Facility boundaries, physical infrastructure, and equipment and measuring devices
- Closing Meeting - Review of issues identified and next steps

7.5 Reporting

The Verification Report will describe the verification process, any findings raised, resolution of findings, and the conclusions reached by the VVB during the verification. GHD will use the most recent VCS Report Template.

The results of the verification may give the necessary input for the Verification Representation. The Verification report will include a statement that provides all required details identified in Section 4.1.17 of the VCS Standard, Version 4.3:

- Description of the level of assurance of the verification
- Description of the objectives, scope and criteria of the verification

- Description as to whether the data and information supporting the GHG assertion were hypothetical, projected and/or historical in nature
- Inclusion of the VVB's conclusion on the GHG assertion, including any qualifications or limitations

The Verification Report will state the volume of verified GHG emission reductions or removals generated during the monitoring period.

8. Strategic Analysis

GHD's Verification Team performed a strategic analysis to understand the activities and complexity of the Facility to determine the nature and extent of the verification activities.

GHD's strategic analysis included:

- Relevant sector information
- Nature of operations of the Facility and product
- Criteria requirements, including applicable regulatory and/or GHG programme requirements
- Materiality threshold, including the quantitative and qualitative components
- Likely accuracy and completeness of the GHG statement
- Scope of the GHG statement and related boundaries
- Time boundary for data
- Emissions sources and their contribution to the overall GHG statement
- Changes in GHG emissions from the prior reporting period
- Appropriateness of quantification and reporting methods, and any changes
- Sources of GHG information
- Data management information system and controls
- Management oversight of the reporting data and supporting processes
- Availability of evidence for the GHG information and statement
- Results of previous verifications
- Results of sensitivity or uncertainty analysis
- Allocation approach
- Type of GHGs
- Applied monitoring methodology (i.e., direct measurement of GHGs or calculation of GHGs with indirect measurement of activity and calculation data)
- Other relevant information

9. Assessment of Risk and Magnitude of Potential Errors, Omissions or Misrepresentations

GHD will follow a risk-based verification approach. As such, GHD will identify the key reporting risks related to the claimed emission reductions and assess to what extent the Project Proponent's control systems are adequate for mitigating any perceived reporting risks.

Key reporting risks that are not sufficiently addressed by the project operator's control system represents residual risks. The Verification Team will conduct a detailed verification to investigate the residual risks. Key

issues in verification include, but are not limited to, verification of correct use of emission factors, correct use of conversion factors, and consistency in aggregation of emissions data. Wherever practical, direct reading instruments are used to ensure that any reporting risks were kept within equipment and instrumentation performance limits.

The results of GHD's strategic analysis were used in the risk assessment. Information about the previous Emissions Report was not yet available, as a result, the strategic analysis did not consider the contribution of the emission sources to the overall GHG Statement and changes in GHG emissions from the prior reporting period. The risk assessment will be updated during the verification process. Based on GHD's initial review of the Davidson County Landfill's operations, the following table summarizes the potential risk and magnitude of potential errors, omissions, or misrepresentations, as currently known:

Source and Percentage of Total Attributable Emissions	Attributes	Inherent Risk	Control Risk	Detection Risk Design	Consideration for Procedure
General					
Facility Boundary	Occurrence	Low – All emissions sources are included in the Monitoring report.	Low – Boundary is well defined and all emissions processes are considered in the quantification.	Low	GHD confirmed the boundaries through review of Facility operations, emission sources, supporting documentation, interviews with Facility personnel and an in-person site visit.
	Completeness				
	Accuracy				
	Classification				
	Cut-off				
Data Management Systems	Occurrence	Medium – Baseline data is supplied by internal meters/records. Electricity consumption is determined via invoices. Fossil fuel consumption is determined through operating records and provided by DTE. This results in a medium inherent risk.	Medium - Data is downloaded on a monthly basis and sent to Element Markets. The data is processed using SQL. The control risk is medium.		GHD reviewed all the data management systems during the site visit. There is a low risk that a material error was not detected.
	Completeness				
	Accuracy				
	Classification				
	Cut-off				
Baseline Emissions					
LFG Destruction (100%)	Occurrence	High - A data recorder on-site records flow on frequent intervals. Methane composition is measured periodically with a gas analyzer. Significant contributor to emission reductions. Therefore, the inherent risk has been set to high.	Low - Flow meters and gas analyzers are factory calibrated per manufacturers manuals. The data is downloaded on a routine basis. This leads to a low control risk related to data acquisition and control.	Low	GHD reviewed recorded data related to methane composition and flow for the entire monitoring period. There is a low risk that a material error would not be detected.
	Completeness				
	Accuracy				
	Classification				
	Cut-off				

Source and Percentage of Total Attributable Emissions	Attributes	Inherent Risk	Control Risk	Detection Risk Design	Consideration for Procedure
Project Emissions					
Fossil Fuel Consumption (0.60%)	Occurrence	Low - Fossil fuel consumption is determined through operating records and provided by DTE. Low magnitude source of emissions. Therefore, the inherent risk has been set to low.	High - As no invoices are collected during the reporting period, the control risk is determined to be high.	Low	GHD reviewed calculations and verified that fuel consumption during the reporting period was conservatively estimated.
	Completeness				
	Accuracy				
	Classification				
	Cut-off				
Electricity Consumption (99.40%)	Occurrence	Medium – Electricity consumption is the main source of Project emissions; the inherent risk is medium.	Low - Electricity consumption is determined from third-party invoices, therefore the control risk is low.	Low	GHD reviewed third-party invoices and all defaults and emission factors used in the calculations. There is a low risk that a material error is not detected.
	Completeness				
	Accuracy				
	Classification				
	Cut-off				

10. Evidence Gathering Plan

GHD has developed an evidence-gathering plan for internal use based on review of the objectives, criteria, scope, and level of assurance detailed above. The evidence-gathering plan is designed to lower the verification risk to an acceptable level and specifies the type and extent of evidence-gathering activities. The evidence-gathering plan is dynamic and will be revised, as required, throughout the course of the verification.

11. Verification Timelines

GHD is committed to providing efficient and effective services to all of its clients. In order for GHD to maintain a strict schedule, it is additionally the responsibility of EM to maintain adherence to the proposed schedule.

The following table presents the timelines based on the general information provided by the Project Proponent with regard to the date on which the Monitoring Report was available to GHD. A key component to maintaining the proposed timelines is the timely and complete response of the Project Proponent to any/all CAR(s), CL(s), and FAR(s).

GHD reserves the right to revise or change the proposed timelines and the associated fees given the following occurrences:

- A CAR/CL is not adequately responded to in accordance with VCS standards within ten (10) days of submittal of the request by GHD to the Project Proponent.
- The VCS guidance related to the verification is revised during the verification process.

Assuming that none of the previously mentioned events occur during GHD's verification assessment such that the verification process timelines would be altered, the following table presents the proposed timelines for completing the verification.

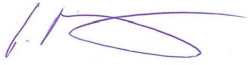
Table 11.1 *Proposed Verification Timeline*

Date/Timeline	Milestone	GHD Deliverable
Proposal Issuance	Proposal provided to EM	Letter Proposal
Contract Execution (May 2022)	Contract is Duly signed by EM and GHD	Duly signed contract
Start Date (July 2022)	GHD submits Verification Plan and EM provides VCS Monitoring Report, Monitoring Plan, and PD	Verification Plan
Start Date + 1 Week (July 2022 – August 2022)	Verification Team reviews the documentation and formulates issues and provides an Issues Log to EM	Issues Log
Client Dependent (up to 7 days) (July 2022 – August 2022)	EM submits documentation to GHD addressing the issues raised in the Issues Log	Not applicable
Site Visit August 16, 2022	GHD conducts in-person site visit of Facility	Not applicable
Issues Log Closeout (August-September 2022)	Verification Team will review the additional supporting documentation and any changes to the PD or the Monitoring Report. If required, GHD provides EM with additional/revised issues. Upon closure of all issues GHD will provide the Draft Verification Report to the Internal Technical Reviewer.	Revised Issues Log, if applicable
Peer Review and Draft Report (October 2022)	Final review of the Monitoring Report and Draft Verification Report by the Technical Reviewer. Revisions to the Draft Verification Report to address Technical Review comments.	A request for any additional information required resulting from the Technical Review Draft Verification Report
Final Report (Late-October 2022)	Revisions to the Draft Verification Report to address EM comments. Preparation of Final Verification Report and Statement.	Submit of the Final Verification Report and Statement to Project Proponent/Technical Consultant Project Proponent is responsible for submission of project documents to Verra: VCS to complete registration and issuance request

12. Closing

The Verification Plan is considered to be a dynamic document that may require modification and adaptation to conditions as encountered during the completion of the Verification process.

All of Which is Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Gord Reusing'.

Gord Reusing
Co-Lead Verifier
+1 519 340-4231
gordon.reusing@ghd.com

A handwritten signature in blue ink, appearing to read 'Dana Lauder'.

Dana Lauder
Co-Lead Verifier
+1 519 340-4168
dana.lauder@ghd.com

APPENDIX B: FINDINGS ASSESSMENT

Rev. No.	Date Issued
0	August 11, 2022
1	Sepetember 8, 2022
2	October 17, 2022
3	January 11, 2023
4	January 13, 2023
5	January 16, 2023
6	February 27, 2023
7	March 2, 2023

CL #	Clarification Request	Explanation/Response	Changes applied to Project Documents	Status
1	Please clarify how propane and gasoline consumption was determined for the reporting period.	Received email assertion claiming the propane and gasoline consumption for the 2021 reporting period. Please find the document uploaded onto Egnyte titled "Fuel Usage Assertion" in the Project Emissions folder.	n/a	closed
2	Please provide evdidence that flow meters standardize temperatures to 60°F. Response: Please provide evidence that the standard conditions of 60°F and 1 atm are specific to the flow meters as observed during the site visit (See issue 7).	The flow meters are designed to configure to standard conditions of 60°F and 1 atm, and email confirmation of this has been uploaded to the Raw Data folder on egnyte. Confirmed this email confirmation is specific to the flow meters observed during the site visit. Please see issue 7 for further resolution.	n/a	closed
3	Please confirm the reason for the raw data only including one set of methane readings that are used for both engine and flare emissions calculations.	The raw data only includes one set of methane readings for both the engine and flare emissions calculations, because the gas going to the engine and flare is the exact same gas. Therefore, the methane concentrations (and readings) would be the same for both quantifications.	n/a	closed
4	Please confirm why no raw flow data/methane readings are provided for the month of January.	There is no flow data/methane readings provided for the month of January due to lost data on their Historian. Therefore, the data was unable to be retrieved.	n/a	closed
5	Please confirm why flow readings for both engine and flare are 0 for many days throughout January - April.	Similar to the above explanation, there was lost data on their Historian and the data was unable to be retrieved (which is why it has been displayed as zeroed out).	n/a	closed
6	Please clarify whether any flow or methane concentration substitutions were made and how they align with Protocol requirements.	No flow or methane concentration substitutions were made.	n/a	closed
7	GHD identified during the Site Visit that the engine and flare flow meters contained different serial numbers than listed in the 2021 calibration document provided, and the calibration records were re-provided for years 2016-2021 and are now consistent with what was observed. - Please provide transparency from the calibration provider that the certificates are accurate and the process for attaining the correct certificates. - Please clarify whether there are updated calibration results taken more recently, which demonstrate that the certificates are accurate and correspond to the correct flow meters.	Provided email assertion from calibration provider to demonstrate confidence in the calibration records. This assertion has been uploaded as "Calibration Assertion" in the Calibrations folder on Egnyte. The revised calibration serial number documents have also been uploaded in the Calibrations folder on Egnyte. There are no updated calibration results yet that are more recent, as they will be completed in November. However, the assertion from the calibration provider and records from 2016. 2017, 2018, 2019, and 2020 should provide confidence this is all correct.	n/a	closed
8	Please clarify the dates and results of the field checks conducted for all monitoring instruments, and whether they were in compliance with the Protocol.	This is not necessary as we have already provided the appropriate calibration records (11/08/2021) for all monitoring instruments and in the protocol it states: " Instead of performing field checks, the project developer may instead have equipment calibrated by the manufacturer or a certified calibration service per manufacturer's guidance, at the end of but no more than two months prior to or after the end date of the reporting period to meet this requirement." (page 31 of the CAR U.S. Landfill Gas Protocol)	n/a	closed

CAR #	Corrective Action Request	Explanation/Response	Changes applied to Project Documents	Status
1	GHD notes that for the Flare emissions calculations, tab 'Raw data', the amount of voided flare flow is not based on the correct checks as occurring in columns N through R. For example, a check is not included for flow readings with flare temperatures <500F. The checks in column P and R relating to engine operation and flow meter temperatures do not seem relevant. GHD re-calculated flare emissions, including a check for flare temperature and determined an 8.25% discrepancy (underreporting) in total emission reductions.	Please find the updated calculator with the required checks in file "2021 Davidson ER Calcs (Flare) V1.1.xlsx". The Monitoring Report has also been updated with the updated values accordingly in file "2021 Monitoring Report V1.1.doc"	Revisions made in Monitoring Report V1.1	closed
2	Please note that an updated Landfill Gas Protocol version 6.0 was released on June 8, 2022 and the Monitoring Report may be updated to follow the new protocol.	This verification reporting period will continue to use the Landfill Gas Protocol version 5.0 for the quantification. Therefore, to maintain consistency within the project and the previous crediting period we will continue to refer to the version 5.0 guidelines for the Monitoring Report as well.	n/a	closed
3	Please note that Monitoring Report V1.1 contains the incorrect serial numbers for the flow meters.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.2.doc"	Revisions made in Monitoring Report V1.2	closed
4	Please note that Monitoring Report V1.1 is titled "Monitoring Plan" within the document. Please note that the Monitoring Plan is different from the Monitoring Report.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.2.doc"	Revisions made in Monitoring Report V1.2	closed
5	Please note that the verison number is not updated in the title page of Monitoring Report V1.1.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.2.doc"	Revisions made in Monitoring Report V1.2	closed
6	Please note that the report ID on the title page of the Monitoring Report should be an identification number for the report.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.2.doc"	Revisions made in Monitoring Report V1.2	closed
7	Please note that in Appendix B of the Monitoring Report, the latest version of the flare calculation file, 2021 Davidson ER Calcs (Flare) V1.1 .xlsx, is not listed. Please list the latest version in Appendix B and submit the latest version of the ER calc file. GHD response: Please submit the latest version of the ER flare calculations file to VCS.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.3.doc" The updated ER flare calcs were already uploaded to VCS but has now been re-uploaded again.	Revisions made in Monitoring Report V1.3	closed
8	Please note that in section 4.2 of the Monitoring report, please correct all values listed as estimated values to the actual values. These include the actual average methane concentration, currently listed as estimated 50% and the actual kWh output, currently listed as estimated 1500 kWh. GHD response: Please also update the estimated value provided for the flow rate of landfill gas to the actual for the reporting period.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.3.doc" Corrected again and reuploaded under the same name	Revisions made in Monitoring Report V1.3	closed
9	In section 4.2, please clarify how values were obtained: LFGadjusted, CH4DestPR, CH4Destengine, Q. Otherwise, please correct Monitoring Report to include correct and updated values. GHD response: In section 5.1, please update the values summary to include the updated value of CH4DestPR as listed earlier in Section 4.2 of Monitoring Report V1.3.	LFGadjusted has been corrected (should match sum of Column E in Flare calc tab 5.2); CH4DestPR is the sum of Flare calc tab 5.4 cell I742 and Engine calc tab 5.4 cell I741; CH4Destengine has been corrected (should match Engine calc tab 5.4 cell G741); Q is the sum of Flare calc tab 5.4 cell F742 and Engine calc tab 5.4 cell F741 Update to section 5.1 was made.	Revisions made in Monitoring Report V1.3/explanation has been provided	closed
10	In section 4.2, please note that there is a minor transcription error where the gasoline emission factor table includes the incorrect description for the gasoline emission factor.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.3.doc"	Revisions made in Monitoring Report V1.3	closed
11	Please include Monitoring Report updates relating to issues # 7-10 as tracked changes in the Monitoring Report and please provide GHD a version with tracked changes and final PDF version of the Monitoring Report. GHD response: Please provide updated tracked and pdf version of Monitoring report addressing issues 7-12.	Tracked changes report has been provided as well as the PDF version of the final MR. (All of this has been uploaded to Egnyte)	Updated document has been re-uploaded.	closed
12	Please update the Monitoring Report Issue Date and version number (1.3) on the tracked and pdf versions of the title page of the Monitoring Report.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.3.doc" and "2021 Monitoring Report V1.3 - TRACKED.doc"	Revisions made in Monitoring Report V1.3	closed
13	As requested by Verra in the Responses document Finding #3, point 5, please create a separate summary tab in the flare and engine emissions calculations files that clearly show the baseline, project and leakage emissions as listed in Section 5.4 of the MR. On the 5.1 Project GHG ERs tab of the spreadsheets, it can be seen that column G, the "Less: DF Discount Factor" column, has the baseline emissions. In the separate tab that is created, the total Flare and Engine baseline emissions number (49397) cell calculation must reference cells G11 in the flare file and the engine file. The project emissions number (106) when listed in the new summary tab must reference cell H107 from the engine calculations file. GHD Response: In order to demonstrate the traceability of the emissions reductions in the most clear way, the summary table for the emissions reductions must include the breakdown of contribution of emissions from the engine and flare to the final baseline and final project emissions and emissions reductions values. Although these numbers are already referenced in the total baseline and project emissions cells, it is most clear to include the values in the table.	This summary tab with this information has been added to "2021 Davidson ER Calcs (Flare) V1.2.xlsx" and "2021 Davidson ER Calcs (Engine) V1.1.xlsx" Update: This summary tab with this information has been added to "2021 Davidson ER Calcs (Flare) V1.2.xlsx" and "2021 Davidson ER Calcs (Engine) V1.1.xlsx"	Updated document has been re-uploaded.	closed
14	In Appendix A of the Monitoring Report, please also include the image of the summary tab as detailed in Issue 13 and the image of the portion of the Electricity Consumption table in 5.1 Project GHG ERs Engine tab, which shows the 106 for project emissions. This includes rows 105(table header) and 107(2021 calcs). GHD Response: In Appendix A of the Monitoring Report please note that the description of the first two tables is unclear and should indicate that the first table is the overall emission reductions for the engine and second table the overall emission reductions for the flare. Additionally, as separate Project emissions tables are included below the overall emission reductions table, but baseline emissions tables are not, it should be indicated in the overall emission reductions tables, above or around the "Less: DF Discount Factor" column, that these are the baseline emissions.	This has been included in "2021 Monitoring Report V1.4.pdf" and "2021 Monitoring Report V1.4 - TRACKED.doc" Update: This has been corrected in "2021 Monitoring Report V1.4.pdf" and "2021 Monitoring Report V1.4 - TRACKED.doc"	Revisions made in Monitoring Report V1.4	closed
15	The Pre-Project Raw data tab of the calculation files indicates an Average LFG flow rate and Average Methane % of 175.22 scfm and 49.6% respectively for the flare, and 529.6 scfm and 50.5% for the engine. The Monitoring Report lists an average LFG flow rate of approximately 445 scfm and 49.6% average methane content. Please confirm the reason for the inconsistency or update the Monitoring Report parameters section for LFG flow rate and average methane content, to include the respective values for both the engine and flare. GHD Response: Upon further review, it is noted that The Pre-Project Raw data tab of the flare calculation file indicates an Average Methane % of 49.95%, not 49.6%.	Corrected and uploaded to Egnyte in "2021 Monitoring Report V1.4.pdf" and "2021 Monitoring Report V1.4 - TRACKED.doc" Update: Corrected in "2021 Monitoring Report V1.4.pdf" and "2021 Monitoring Report V1.4 - TRACKED.doc"	Revisions made in Monitoring Report V1.4	closed
16	Text formatting of the 'value applied' section for the Methane Concentration parameter in the Monitoring Report is slightly off colour. Text formatting of the ELPR parameter section of the Monitoring Report is slightly off colour and in italics.	This has been corrected in "2021 Monitoring Report V1.4.pdf" and "2021 Monitoring Report V1.4 - TRACKED.doc"	Revisions made in Monitoring Report V1.4	closed
FAR #	Forward Action Request	Explanation/Response	Changes applied to Project Documents	Status
0				

APPENDIX C: VERIFICATION DEED OF REPRESENTATION

VCS VERIFICATION DEED OF REPRESENTATION

BY

GHD SERVICES INC.

THIS DEED OF REPRESENTATION is made on March 10, 2023.

BY

GHD Services, Inc., 455 Phillip Street, Waterloo, Ontario N2L 3X2, Canada (as **VVB**)

THIS DEED WITNESSES as follows:

1. **INTERPRETATION**

1.1 In this Deed:

"Accountholder" means the holder of an account in the Verra Registry;

"AFOLU" means agriculture, forestry and other land use;

"GHG" means greenhouse gas;

"GHG Program" means a formal or organized program, scheme or arrangement for the recognition of activities leading to Reductions, or the crediting or issuance of instruments representing, or acknowledging, Reductions;

"Project" means Davidson County Landfill;

"Project Crediting Period" means the time period for which GHG emission reductions or removals generated by the Project are eligible for issuance as VCUs (the rules with respect to the length of such time period and the renewal of the project crediting period are set out in the *VCS Standard*);

"Project Ownership" means the legal right to control and operate the project activities. Distinct from proof of right;

"Project Proponent" means the individual or organization that has overall control and responsibility for the Project, or an individual or organization that together with others, each of which is also a Project Proponent, has overall control or responsibility for the Project. The entity(s) that can demonstrate Project Ownership in respect of the Project. "For the avoidance of doubt where an individual executes this Representation in their capacity as an authorized office holder of the company who is the Project Proponent, this Representation is made by the company, not the authorized office holder;

"Reduction" means a reduction or removal of one tonne of CO₂e caused by the activities of a Project during the Project Crediting Period;

"Validation/Verification Body" or "VVB" means an organization approved by Verra to act as a validation/verification body in respect of providing validation and/or verification services in accordance with the VCS Program Rules;

"VCS Program" means the GHG Program operated by Verra which establishes the rules and requirements that operationalize the VCS to enable the validation of GHG projects and the verification of GHG emission reductions and removals;

"VCS Program Rules" means the rules and requirements set out in the *VCS Program Guide*, the *VCS Standard* and the other VCS Program documents, as such rules and requirements may be updated from time to time;

"Verification Report" means the written report of verification covering the Reductions

generated by the Project from 1 January 2021 to 31 December 2021 and prepared by the VVB in accordance with the VCS Program Rules; and

"Verified Carbon Unit" (VCU) means a unit issued by, and held in the Verra Registry representing the right of an Accountholder in whose account the unit is recorded, to claim the achievement of a Reduction that has been verified by a validation/verification body in accordance with the VCS Program Rules. Recordation of a VCU in the account of the Accountholder at the Verra Registry is *prima facie* evidence of that Accountholder's entitlement to that VCU.

"Verra Project Database" means the database that provides public access to all project and VCU information, including retirement and tracking of the AFOLU pooled buffer account (and serves similar functions for other Verra programs);

- 1.2 **"Verra Registry"** means the registry used by Verra that ensures all required Project and program documents have been submitted, maintains accounts of VCUs, issues and ensures the seamless flow of VCUs between registry accounts, and maintains custody and records of VCU legal ownership; Documents referred to in this Deed but not defined shall be the VCS Program documents, as updated from time to time, to which the relevant term relates.

2. REPRESENTATIONS

- 2.1 I am the Validation/Verification Body in relation to the verification of the Project.

- 2.2 I hereby represent and warrant that:

2.2.1 I have independently verified the Reductions generated by the Project in accordance with the VCS Program Rules;

2.2.2 In relation to any validation findings and conclusions provided in the Verification Report, I have independently validated the Project's compliance with the VCS Program requirements as set out in the VCS Program Rules; and

2.2.3 All factual information that I provide in relation to this Deed or have provided in the Verification Report is to the best of my knowledge following due inquiry true, accurate and complete in all material respects and I have not made or provided, and will not make or provide, false, fraudulent or misleading statements or information in relation to this Deed or the Verification Report.

- 2.3 I hereby acknowledge and agree that:

2.3.1 The following persons may rely on and enforce the terms of this Deed:

- (a) Verra;
- (b) each person who is an Accountholder holding VCUs relating to the Project at any given time;
- (c) each person on whose behalf VCUs relating to the Project were retired by an Accountholder; and
- (d) each of the successors and assigns of those persons listed in clauses 1.1.1(a), 1.1.1(b) or 2.3.1(c);

2.3.2 Neither Verra, nor any of its respective affiliates, directors, employees, agents, licensors and/or contractors, shall be liable with respect to any claims whatsoever arising out of this Deed or erroneous information within the Verification Report

submitted to the Verra Registry for indirect, consequential, special, punitive or exemplary damages, including, without limitation, claims brought against Verra by Accountholders, Project Proponents, other Validation/Verification Bodies or any other third party. This paragraph shall apply regardless of any actual knowledge or foreseeability of such damages;

2.3.3 I have read, understood and will abide by the VCS Program Rules; and

2.3.4 Verra has an absolute right to amend any of the VCS Program Rules at any time and shall not bear any liability for loss or damage or liability of any kind sustained by the Validation/Verification Body or any other party involved in the Project in any way under the VCS Program as a consequence of such amendment.

3. GOVERNING LAW AND JURISDICTION

This Deed is governed by and interpreted in accordance with English law, and the English courts shall have exclusive jurisdiction to settle any dispute arising from or connected with this Deed including a dispute regarding the existence, validity or termination of this Deed or the consequences of its nullity.

4. SOVEREIGN IMMUNITY

To the extent that the Validation/Verification Body enjoys any right of immunity from set-off, suit, execution, attachment or other legal process with respect to its assets or its obligations under this Deed, the Validation/Verification Body waives all such rights to the fullest extent permitted by law. "

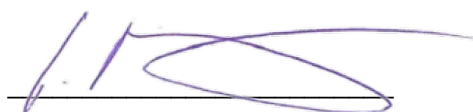
5. COUNTERPARTS

This Deed may be executed in any number of counterparts, each of which when executed and delivered is an original and all of which together evidence the same deed.

6. DELIVERY

This Deed is delivered on the date written at the start of the Deed.

EXECUTED by GHD Services Inc. as a deed



Gordon Reusing

Signature of director

Name of director

Signature of director/secretary

Name of director/secretary