Verification Report

Kirtland Hills Community Forest

City Forest Credits Project Number 057

August 15, 2024

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1 INTRODUCTION

City Forest Credits engaged Zachary Boerman (a Validation and Verification Body (VVB) acting as a third-party verifier) to verify the Kirtland Hills Community Forest Project (Project), Kirtland Hills, OH, for the reporting period June 27, 2024 through June 26, 2027. The goal of the verification is to ensure that the GHG assertion is materially correct, and that the assertions made by the project are well documented.

1.1 PROJECT BACKGROUND

Western Reserve Land Conservancy (the "Land Conservancy") is seeking to permanently preserve the 64.07-acre Kirtland Hills Community Forest (the "Project") in partnership with the Village of Kirtland Hills. The project includes diverse stands of oak, pine, maple, beech and other species of trees as old as 75 years in an area with increasing development pressure.

Preservation of the Project is critical to protect this unique, diverse forest in an urbanized environment. The Project contains 12 native Ohio tree species including sugar maple (Acer saccharum), American beech (Fagus grandifolia), red oak (Quercus rubra), tulip poplar (liriodendron tulipfers), and red pine (Pinus resinosa). There are three distinct stands based on age, ranging from approximately 55 years to 75 years based on historic aerial photography of the site.

The Land Conservancy's and the Village's overall goal is to protect the Project in perpetuity through conservation restrictions. Without the opportunity to register the forest as a carbon project, the trees would not have been protected and may have eventually been developed. The Village of Kirtland Hills will continue to own and manage the Project area in fee title. The Project will be enrolled into the Land Conservancy's diverse portfolio of protected lands, monitoring the Project annually to ensure its natural resources (including the maturing forest) are upheld to standards identified in the conservation restrictions. Layers of legal protection and stewardship monitoring granted through the easement terms will ensure continued provision of conservation benefits for generations to come.

In addition, the Village plans to eventually operate the Project area as a public park, allowing public access to over 1.5 miles of walking trails. Upon recording of the conservation easement, the Village will work together with the Land Conservancy staff to undergo a park planning process with the goal of opening the Project to public access a few years later. Public access will allow pedestrian use for nature enjoyment, nature study, bird watching and other compatible uses not detrimental to the high-quality habitat. The location of this Project in the Village of Kirtland Hills, and its high density of residential occupants, will provide perpetual public access and human health benefits to the surrounding community.

1.2 CONTACT INFORMATION

Project Operator
Western Reserve Land Conservancy
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Moreland, OH 44022
Alex Czayka, Chief Conservation Officer
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1.3 OBJECTIVE

The goal of this GHG emission reduction verification is to ensure that the GHG assertion made by the Project is materially correct, that the assertions and assumptions used in the offset calculations are appropriate, that the offset calculations conform to the City Forest Credits (CFC) Protocol, and that the Project is in compliance with all CFC requirements relating to eligibility, accounting, and documentation.

2 VERIFICATION CRITERIA

2.1 GENERAL

The Registry will accredit VVBs to act as third-party verifiers who meet the Registry's qualifications and complete training. Those accredited VVBs can then act to verify compliance with this Tree Preservation Protocol per International Standards Organization 14064-3. Specifically, the Registry adopts and utilizes the following standards from ISO 14064-3:

- Upon receiving a Project Design Document with data on eligibility, quantification of carbon and co-benefits, and a request for credits, the Registry will conduct a validation. If it validates the project at that stage, the Registry will retain a VVB to act as third-party verifier to verify compliance with this Protocol.
- The Registry requires a reasonable level of assurance in the accuracy the asserted GHG removals to a reasonable level.
- The verification items identified in the Tables 1 and 2 are all material elements, and any asserted GHG removals must be free of errors, misstatements, or omissions regarding those elements.
- The Registry will record, store, and track all quantification and verification data and either display it for public review or make it available for public review upon request.

2.2 PROTOCOL

The verification was conducted to the City Forest Credits Tree Preservation Protocol, version 13.40, February 29, 2024.

2.3 LEVEL OF ASSURANCE

This verification was conducted to a reasonable level of assurance. The Verification Report accurately reflects the documentation contained in the Project Design Document and supporting documents.

3 SCOPE OF VERIFICATION

- The Project encompasses land in the Village of Kirtland Hills, OH, within parcels 22-A-001-0-00-005-0, 22-A-001-0-00-004-0, 22-A-004-0-00-010-0, 22-A-004-0-00-006-0, 22-A-004-0-00-012-0, 22-A-004-0-00-011-0, 22-A-001-0-00-003-0, 22-A-001-0-00-007-0, specifically described in the Project Design Document.

- The Village of Kirtland Hills entered into a conservation easement with Western Reserve Land Conservancy to steward the property and protect the trees in the Project area from removal. The conservation easement that protects the trees was signed June 20, 2024 and recorded June 27, 2024. The conservation easement provides information on permissible forest management activities in sections B.1(d), and B.2(b). These activities including removing dead, diseased or materially damaged trees provided that any such removal does not materially impair significant conservation interests and has no more than a negligible or de minimis impact on biomass and carbon stock. The Grantor also reserves the right to tap maple trees within the Project area as long as the sugaring operation does not impair significant conservation interests as described in the easement. The Grantor may also construct necessary trails and temporary structures to continue their sugaring operation.

- The Project avoids emission of CO_2 from trees and soil, by avoiding conversion of forest to non-forest land cover and avoiding conversion of forest soil to impervious surface.

- The Project duration is 40 years, beginning June 27, 2024. The Project Operator commits to protecting the trees within the Project Area and monitoring the project carbon stocks for the entire Project duration.

- The verification includes a review of supporting documents, data, imagery and other evidence provided by the Project Operator; independent review of ownership records, tax maps, and zoning regulations; analysis of stand delineation and forest composition reports as well as checking of calculations for accuracy and conformance with the Protocol. All forest carbon input values were independently checked and calculations were independently replicated.

4 VERIFICATION PROCESS

4.1 VERIFICATION ACTIVITIES

The verification process consisted of the following activities:

- Verifier checked all requirements in the Protocol (outlined in 4.2), confirmed that documentation satisfies the requirements of the Protocol, and that values extracted from the documents and conclusions drawn from the documents are accurate and appropriate.

- Verifier independently checked mapping and calculated values in each stage of calculations.

- Verifier reviewed the credit calculations. Verifier reviewed the Project Operator's assertion that the Project results in GHG emissions mitigation of 6,671 tons CO_2e.

- Verifier submitted to the Project Operator a request for clarification regarding the DBH height outlined in the raw inventory data that showed DBH height as 4'. The Project Operator confirmed that DBH was measured at 4.5' and what was reflected on the spreadsheet was the result of a rounding error.

4.2 CITY FOREST CREDITS TREE PRESERVATION PROTOCOL REQUIREMENTS

4.2.1 Eligibility

Verifier reviewed the Project against all CFC Tree Preservation Protocol requirements and confirmed the following:

- Project Operator Identity (Section 1.1): Verifier confirmed the Project Operators identity by reviewing the provided identity documents confirming their 501(c)(3) designation. The Project Operators identity was also confirmed by reviewing the Project parcel deeds.

- Project Documentation (Section 3): Verifier reviewed and confirmed Project Documentation including Project Design Document is complete and accurate.

- Project Implementation Agreement (Section 1.2): Verifier reviewed and confirmed fully executed Project Implementation Agreement on file.

- Project Location (Section 1.3): Verifier reviewed the maps and shapefile provided by the Project Operator and confirmed that the data is geospatially accurate. Verifier also confirmed that the Project area lies within and along the Cleveland, OH US Census designated Urban Area, which satisfies Section 1.3 A of the Protocol. The Verifier confirmed that the Project area also satisfies Protocol Section 1.3 D because the Project falls within the boundary of the Northeast Ohio Area wide Coordinating Agency's (NOACA) planning jurisdiction.

- Defining the Project Area (Section 1.4): Verifier confirmed that 80.1% of the Project Area is covered by tree canopy after reviewing the provided Forest Composition Report. This is above the threshold for locations that receive 20" of precipitation a year and satisfies Protocol Section 1.4 C.

- Land Ownership or Right to Receive Credits (Section 1.5): Verifier confirmed that there is a clear title to carbon credits and the Project Operator has legal authority to create and dispose of greenhouse gas offsets generated on the project lands

- Demonstrating Preservation and Threat of Loss (Section 4):
    - Verifier confirmed that trees within the Project Area were not protected from removal prior to the Project. More than 30% of the Project Area's perimeter is adjacent to zoning districts that allows for non-forest use including, but not limited to, residential development, agriculture, and public and private schools. The Project Area also previously contained 7.4 acres zoned as a Retail Commercial District that allows for the development of retail stores, offices and parking lots.
    - Verifier confirmed that trees within the Project Area are now preserved from removal by a recorded conservation easement.
    - The Project Operator has committed to meeting the permanence requirements stated in the PIA.
    - Prior to the Preservation Commitment action by the Project Operator there was threat of conversion of the project lands to non-forest cover as evidenced by 100% of the perimeter being adjacent to developed or improved uses.

- No Double Counting and No Net Harm (Section 5):
    - Verifier confirmed that Attestation of No Double Counting and No Net Harm is on file.
    - Verifier compared the Project geospatial data to the registered urban forest carbon preservation projects geospatial database using the ArcMap intersect tool and determined that there is no overlap with other registered carbon projects. The analysis returned an empty feature output, which signifies there is no overlap between the Project area and any other CFC forest preservation projects.

- Monitoring and Reporting (Section 8): Verifier confirmed that Project Operator has a plan for monitoring and reporting over the Project Duration, and the plan is plausible and reasonable.

4.2.2 Additionality

Verifier reviewed and confirmed that Project lands met the additionality requirements of the Protocol:

- Prior to the Preservation Commitment, lands were not protected from conversion by easement, zoning, or other legal mechanism.

- Prior to the Preservation Commitment, the applicable Farm and Residence and Retail Commercial zoning that comprises the Village of Kirtland Hills allowed for development that included the removal of existing trees.

- Prior to the Preservation Commitment, The trees in the Project Area faced risk of removal or conversion out of forest, demonstrated by 100% of the Project area's perimeter being adjacent to improved uses. This surpasses the 30% threshold outlined in Protocol Section 4.4 A.

- Project Operator signed an Attestation of Additionality on June 3, 2024. The document includes information on the impact of carbon revenues to project success.

- The Project is not common practice, demonstrated by the current version of the Registry's Activity Penetration Analysis of Urban and Peri-Urban Forest Conservation (Tree Preservation Protocol, Version 13, Appendix E).

- Verifier confirmed that the landowner is a land conservation entity and that the Project lands were acquired within two years of the date of the Project application.

4.2.3 Permanence

The Project Operator has committed to CFC that the Project Operator will protect the trees on the Project Area for 40 years. The conservation easement protecting the Project trees and lands is permanent.

4.2.4 Accounting

The Project documents an on-site plot-sample forest inventory, and uses required factors in carbon stock and offset calculations.

The Project Operator elected to quantify the stored carbon stock in compliance with CFC Protocol Section 11.1 B. To meet these requirements, the Project Operator appointed staff from the Land Conservancy to establish 17 1/10th acre plots. Within every plot, each live tree was inventoried that was at least 5" in diameter and 4.5' above ground, where the height above the ground is measured on the uphill side of the tree. Species, diameter, and overall tree condition were recorded for each tree. The Verifier confirmed the above sampling method resulted in a standard error of 10%.

The Verifier confirmed that all 17 sample plots fell within the 64.07-acre Project Area via the Kirtland Hills Community Forest Plot Location Map.

The Verifier confirmed that the tC/ac of biomass calculated by the Project Operator is correct. This number was verified by repeating the calculation (biomass tC/ac = (metric tons of carbon–standard error)/Project Area acre) where metric tons of carbon and standard error were supplied by the Project Operators i-Tree Eco carbon biomass results. tCO2e/ac was then verified by dividing tC/ac by the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). The Verifier confirmed that the measurement of 175.23 tCO2e/ac is correct for the Project Area using this method.

The Verifier confirmed that 44.94% of the accounting stock on the 56.67 acres zoned Farm and Residence District is at risk of tree removal. The Village of Kirtland Hill's zoning regulations stipulate that the minimum residential lot size is 5 acres, which allows for 11 potential units. 90% of the accounting stock, or 10,104.30 tCO2e, is more than the avoided biomass emissions resulting from the calculation accounting for 11 dwellings on 56.67 acres 11,227*(((2*11)+((56.67-(2*11))*0.1))/56.67) =

5,045.32tCO2e. Therefore, in accordance with Protocol Section 11.2 B, 5,045.32 tCO2e, or 44.94%, of the accounting stock is at risk of tree removal.

The Verifier also confirmed that the Retail Commercial District zoning regulations do not provide enough information on minimum lot size to use the calculations in Protocol Section 11.2 B ii. Therefore, the standard 90% is at risk of tree removal in this area, which satisfies Protocol Section 11.2 A.

The Verifier confirmed that the calculations above leave 25.47 acres (or 44.94% of 56.67 acres) in the Farm and Residence District and 6.66 acres (or 90% of 7.4 acres) in the Retail Commercial District at risk of tree removal. This equates to 50.14% of the total Project Area being at risk of tree removal.

The Verifier confirmed that zoning regulations for the 56.67 acres in the Farm and Residence District specify a 5-acre (or 217,800 sqft) minimum lot size. Zoning regulations also specify minimum front, rear and side yard setbacks equaling 114,120 sqft per unit. Zoning does not require the setbacks to be pervious and the Verifier agrees with the Project Operators conservative estimate that setbacks would not be converted to impervious surface. Therefore, after removing the total area of setbacks per unit, 103,680 sqft, or 47.60%, of the total area zoned Farm and Residence District can be claimed as avoided impervious surface.

The Verifier confirmed that because of the lack of detail around the Village's Retail Commercial District zoning, the standard 90% of the 7.4 acres in that designation to be claimed as eligible for conversion to impervious surface. This is in line with Protocol Section 11.3 A.

The Verifier confirmed that with 26.97 acres (or 47.60% of 56.67 acres) in the Farm and Residence District and 6.66 (or 90% of 7.4 acres) in the Retail Commercial District eligible to be claimed as avoided impervious surface, the total acreage eligible to be claimed as avoided impervious surface is 34. This equates to 52.50% of the total project area.

The Verifier also confirmed that with 34 acres of avoided impervious surface in the Project Area the Project accounts for 4,036 tCO2e of avoided soil carbon emissions. This calculation was made in line with section 11.3 of the Protocol, which allows the Project to claim 120 metric tonnes of carbon dioxide equivalent of avoided soil carbon emissions per acre of net avoided impervious surface.

4.2.5 Leakage

Offset accounting makes deductions for expected displacement of emissions following the requirements of the Protocol.

The Verifier confirmed that the Project Operator accurately followed Protocol section 11.4 A to determine that, of the total number of tonnes of avoided biomass emissions from within the Project Area, 18.3% are assumed to be emitted from development displaced from the Project Area. After repeating the calculations to remove the Displaced Biomass Emissions from the total Avoided Biomass Emissions, the Verifier confirmed the total Credits from Avoided Biomass Emissions (4,599 tCO2e) is correct.

The Verifier also confirmed that the Project Operator accurately followed Protocol Section 11.4 B to determine that, of the total number of tonnes of Avoided Soil Carbon Emissions from within the Project Area, 30.3% are assumed to be emitted from development displaced from the Project Area. After repeating the calculations to remove the Displaced Soil Emissions from the total Avoided Soil Carbon Emissions, the Verifier confirmed the total Credits from Avoided Soil Emissions (2,813 tCO2e) is correct.

5 VERIFICATION FINDINGS

All issues raised by Verifier were clarified or corrected by the Project Operator and all issues were closed by appropriate responses by the Western Reserve Land Conservancy.

The Project documents and data were reviewed, and the Verifier found that the emission reductions claimed are reasonable and in accordance with the Preservation Protocol. The Verifier makes no further recommendations.

6 VERIFICATION RESULTS AND CONCLUSION

This verification of the Kirtland Hills Community Forest Project for the reporting period June 27, 2024 through June 26, 2027 was completed in a manner consistent with ISO 14064-3 and in conformance with relevant CFC standards and guidelines. The table below is a summary of the emission reduction or removals.

Table 1. Project GHG Removals

Project Name	Issuance Year	GHG Reductions and Removals Attributed to the Project ($mtCO_2e$)	Reversal Pool Account (10%) ($mtCO_2e$)	Emission Reductions to be Issued to Project ($mtCO_2e$)
Kirtland Hills Community Forest Project	2024 (after verification)	5,784	578	5,206
Kirtland Hills Community Forest Project	2025 (June 28, 2025. Anniversary of Preservation Commitment recordation)	1,628	163	1,465
Cumulative		7,412	741	6,671

The Project Operator calculated ecosystem co-benefits using the CFC tool to determine dollar values of other ecosystem services. The Verifier corroborated the CFC tool inputs and outputs to produce the values below. The Verifier does not make an assessment to the plausibility of these values.

Table 2. Ecosystem Co-Benefits Per Year

Ecosystem Services	*Resource Units*	*Value*
Rainfall Interception (m3/yr)	30,622.5	$64,723.81
Air Quality (t/yr)	2.3150	$5,795.04
Cooling – Electricity (kWh/yr)	84,234	$11,801.25
Heating – Natural Gas (kBtu/yr)	3,356,584	$46,946.16
Grand Total ($/yr)		**$129,266.26**

Because the Project area is greater than 50 acres, credits will be issued attributable to the equivalent of 50 acres of the Project area annually until all credits have been issued.

Verifier Signature

Zachary Boerman